Owner's Operating Service Instruction Manual

10¢

Model No. 146-660A

- ASSEMBLY
- OPERATION
- REPAIR PARTS

8 H.P. COMPACT TRACTOR

MTD PRODUCTS INC • 5389 WEST 130th STREET • P. O. BOX 2741 CLEVELAND OHIO 44111

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FORM NO. 770-6154

IMPORTANT

It is suggested that this manual be read in its entirety before attempting to assemble or operate. Keep this manual in a safe place for future reference and for ordering replacement parts.

This unit is shipped WITHOUT GASOLINE or OIL. After assembly, see operating section of this manual for proper fuel and amount.

SAFE OPERATION PRACTICES FOR RIDING VEHICLES

1. Know the controls and how to stop quickly—READ THE OWNER'S MANUAL.
2. Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction.
3. Do not carry passengers. **Keep children and pets a safe distance away.**
4. Clear work area of objects which might be picked up and thrown.
5. Disengage all attachment clutches and shift into neutral before attempting to start engine.
6. Disengage power to attachment(s) and stop engine before leaving operator position.
7. Disengage power to attachment(s) and stop engine before making any repairs or adjustments.
8. Disengage power to attachment(s) when transporting or not in use.
9. Take all possible precautions when leaving vehicle unattended such as disengaging power-take-off, lowering attachments, shifting into neutral, setting parking brake, stopping engine and removing key.
10. Do not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face.
11. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.
12. Stay alert for holes in terrain and other hidden hazards.
13. Use care when pulling loads or using heavy equipment.
    A. Use only approved drawbar hitch points.
    B. Limit loads to those you can safely control.
    C. Do not turn sharply. Use care when backing.
    D. Use counterweight(s) or wheel weights when suggested in owner's manual.
14. Watch out for traffic when crossing or near roadways.
15. When using any attachments never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
16. Handle gasoline with care—it is highly flammable.
    A. Use approved gasoline container.
    B. Never remove cap or add gasoline to a running or hot engine or fill fuel tank indoors. Wipe up spilled gasoline.
    C. Open doors if engine is run in garage—exhaust fumes are dangerous. Do not run engine indoors.
17. Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in owner's manual.
18. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
19. Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow engine to cool before storing in any enclosure.
20. To reduce fire hazard keep engine free of grass, leaves or excessive grease.
21. The vehicle and attachments should be stopped and inspected for damage after striking a foreign object, and the damage should be repaired before restarting and operating the equipment.
22. Do not change the engine governor settings or overspeed the engine.
23. When using the vehicle with mower, proceed as follows:
    (1) Mow only in daylight or in good artificial light.
    (2) Never make a cutting height adjustment while engine is running if operator must dismount to do so.
    (3) Shut engine off when removing grass catcher and/or unclogging chute.
    (4) Check blade mounting bolts for proper tightness at frequent intervals.
24. Check grass catcher bags frequently for wear or deterioration. Replace with new bags for safety protection.
25. Look behind to make sure the area is clear before placing the transmission in reverse and backing up.

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ASSEMBLY

GRASS CATCHER Model No. 196-015A is available as optional equipment for the mowers shown in this manual.

WARNING

The mower shall not be operated without the entire grass catcher or chute deflector in place.

NOTE

Under normal usage bag material is subject to wear, and should be checked periodically. Be sure any replacement bag complies with the mower manufacturer's recommendations.

Use factory replacement bag No. 764-0121.

ASSEMBLY

The steering wheel, seat and deck wheels, with the necessary hardware, are easily assembled to the machine. The battery must be activated and installed as outlined in this section and the cutting deck must be attached.

TIRE PRESSURE

FOR SHIPPING PURPOSES, THE TIRES ON YOUR UNIT MAY BE OVER-INFLATED. TIRE PRESSURE SHOULD BE REDUCED BEFORE UNIT IS PUT INTO OPERATION. PRESSURE SHOULD BE APPROXIMATELY 15 P.S.I. EQUAL TIRE PRESSURE SHOULD BE MAINTAINED ON ALL TIRES. MAXIMUM TIRE PRESSURE IS 30 P.S.I.

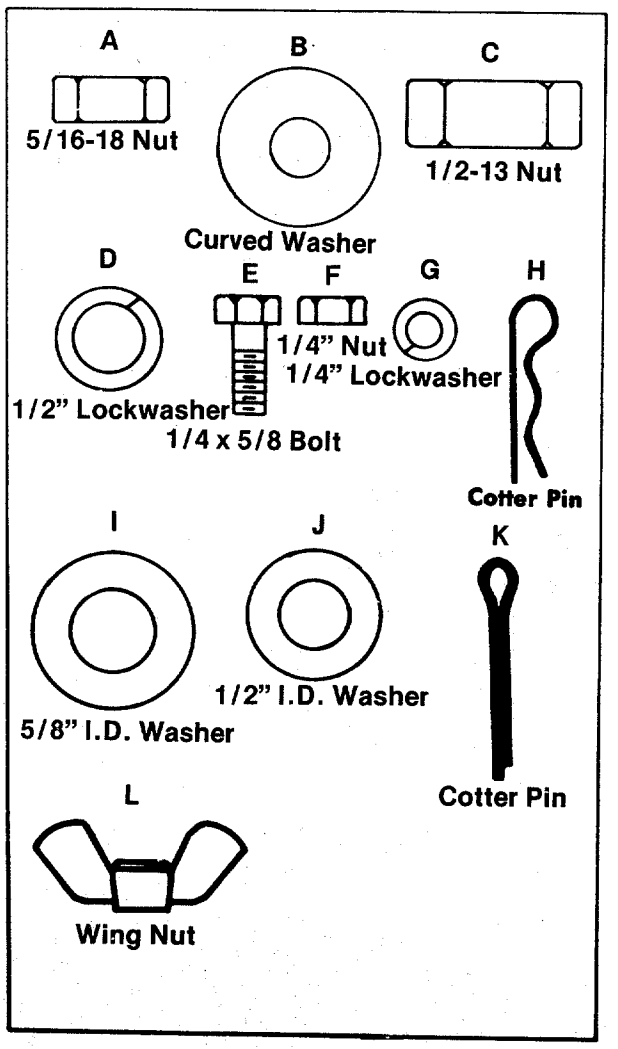


FIGURE 1. HARDWARE SUPPLIED

TOOLS NEEDED
½" Open End or Box Wrench
¾" Open End or Box Wrench
(2) 7/16" Open End Wrench
Pliers

FIGURE 2.

ASSEMBLY

The steering wheel, seat, battery and cutting deck (8 HP), with the necessary hardware are easily assembled to the machine.

NOTE

Reference to right hand side of machine is from the normal operating position facing forward.

Step 1. Remove the tractor and all parts from the carton. Make certain that all loose parts and literature have been removed before the carton is discarded.

Step 2. Place the steering wheel over the tapered end of the steering column. Press it down until the threaded end sticks through the steering wheel. See figure 2.

NOTE

Line up the two flat sides of the steering wheel hole and the two flat sides of the steering column.

Step 3. Place the washer "B" over the steering column, then the nut "A".

Step 4. Tighten the nut with a ½" wrench.

Step 5. Press the cap on the steering wheel by hand.

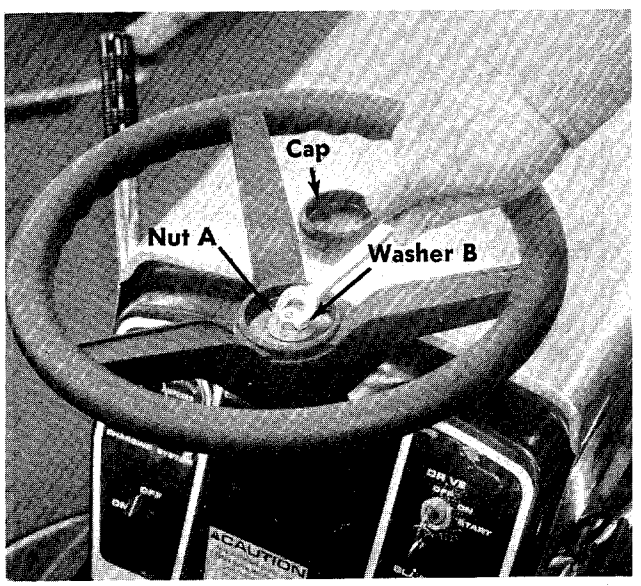


FIGURE 3.

Step 6. Place rubber pad "N" over one of the mounting holes in the seat spring. See figure 4.

Step 7. Place the bolt on the seat through the rubber pad and the seat spring.

Step 8. Assemble the rubber washer "M" and flat washer "D" over the seat bolt and secure with nut "C".

Step 9. Activate the battery.

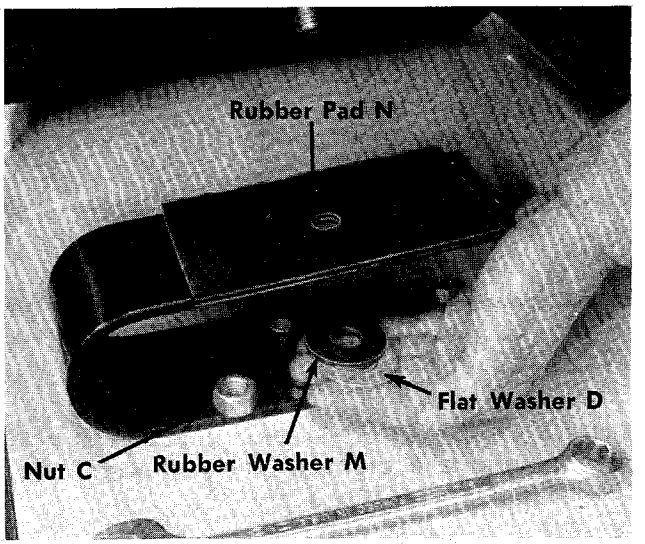


FIGURE 4. SEAT ASSEMBLY

BATTERY INFORMATION

WARNING

A. Battery acid must be handled with great care as it will blister the skin and damage clothing. It is advisable to wear goggles, rubber gloves, and a protective apron when working with it.

B. Neutralize acid spilled on clothing with dilute ammonia water or a water solution of baking soda. If acid gets on clothes, dilute it with clean water first, then neutralize.

C. If for any reason acid should be spattered in the eyes, wash it out immediately with clean cold water. Seek medical aid if discomfort continues.

D. Since battery acid is corrosive to metals, do not pour into any sink or drain. Rinse empty electrolyte containers and mutilate before discarding.

DANGER

BATTERIES CONTAIN SULFURIC ACID AND MAY CONTAIN EXPLOSIVE GASES (when electrolyte has been added)

A. Keep sparks, flame, cigarettes away.

B. Hydrogen gas is generated during charging and discharging.

C. Ventilate when charging or using in enclosed space.

D. When using a charger—to avoid sparks—NEVER connect or disconnect charger clips to battery while charger is turned on.

E. Always shield eyes, protect skin and clothing when working near batteries.

A. Activating the Battery

1. Place the battery to be filled on bench or workbench. NEVER activate battery in unit. Remove vent caps from all cells.
2. Fill each cell carefully using battery grade 1.250-1.265 specific gravity. Sulfuric acid to be 3/8" above the top of the separators or to the split ring.
3. Allow battery to set for 20 minutes to ½ hour. Add additional acid if necessary to bring it up to the proper level.
4. Replace the vent caps.
5. The battery can now be charged after the 20 minutes setting period. Battery can be SLOW CHARGED (DO NOT FAST CHARGE) at a maximum bench rate of 4-5 amperes until the specific gravity reading is 1.265-1.275. A charging rate in excess of this will buckle and warp the positive plates and perforate the separators. If electrolyte bubbles violently while charging, reduce charging rate until excessive bubbling action subsides, then continue charging until specific gravity is reached.

CAUTION

After battery has been in service, add only approved water. DO NOT ADD ACID.

B. To Install Battery

To install the battery in this unit, refer to next column.

C. Maintenance

1. Check periodically (every two weeks or before and after charging) to be sure electrolyte level is 9/16" above separator plates. Add only distilled water or good quality drinking water. NEVER add additional acid or other chemicals to battery after initial activation.
2. The battery should be checked with a hydrometer after every 25 hours of operation. If the specific gravity is less than 1.225 remove battery and recharge.
3. Coat the terminals and exposed wiring with a thin coat of grease or petroleum jelly for longer service and protection against electrolyte corrosion.
4. The battery should be kept clean. Any deposits of acid should be neutralized with soda and water. Be careful not to get this solution in the cells.

D. Storage

1. Charge battery using normal methods. NEVER store discharged battery as it will not recover.
2. Store in cold, dry place.
3. Recharge battery whenever the specific gravity is less than 1.225 before returning to service or every two months, whichever occurs first.

E. Common Causes for Battery Failure Are:

1. Overcharging
2. Undercharging
3. Lack of water
4. Loose hold downs and/or corroded connections
5. Excessive loads
6. Battery electrolyte substitutes
7. Freezing of electrolyte

NOTE

THESE FAILURES DO NOT CONSTITUTE WARRANTY.

LIMITED WARRANTY

For ninety (90) days of original retail purchase, the battery carries a limited warranty against faulty material or workmanship by the battery manufacturer.

INSTALLING THE BATTERY

Step 1. Place the battery in the battery case with the terminals to the rear. (See figure 5.)

NOTE

The positive battery terminal is marked Pos. (+). The negative battery terminal is marked Neg. (-).

Step 2. Hook the hold down rods under the battery case and place the hold down over both rods.

Step 3. Secure the hold down with the wing nuts "L". Tighten hand tight. (See figure 5.)

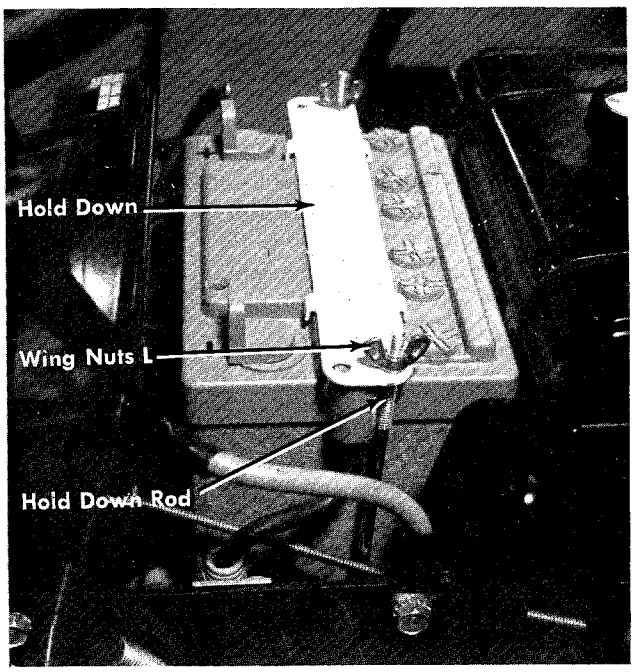


FIGURE 5.

Step 4. Attach the positive cable (from the starter solenoid) and the small wire (from the ammeter) to the positive battery terminal with the bolt "E", lockwasher "G" and nut "F" in the assembly pack. (See figure 6.)

Step 5. Attach the negative cable, grounded, to the negative battery terminal with the bolt "E", lockwasher "G" and nut "F" in the assembly pack.

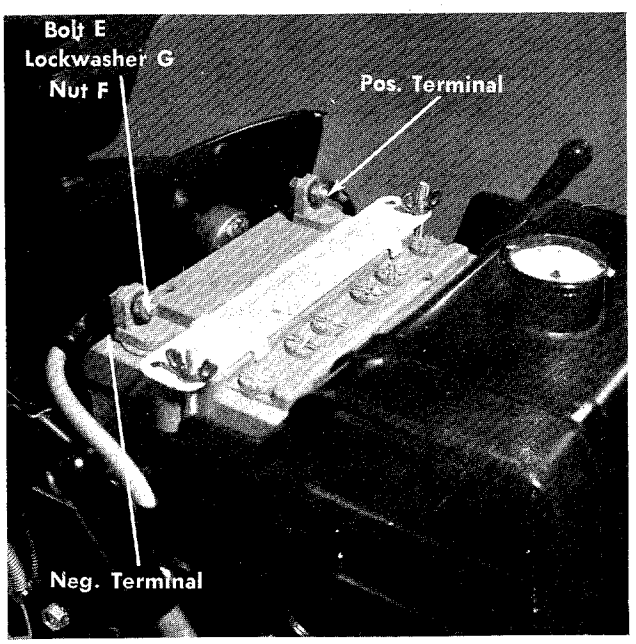


FIGURE 6.

Step 6. Cut the black rubber tubing approximately 6 inches long.

Step 7. Push the rubber tubing into the manifold of the battery and place the other end into the drain tube. (See figures 7 and 8.)

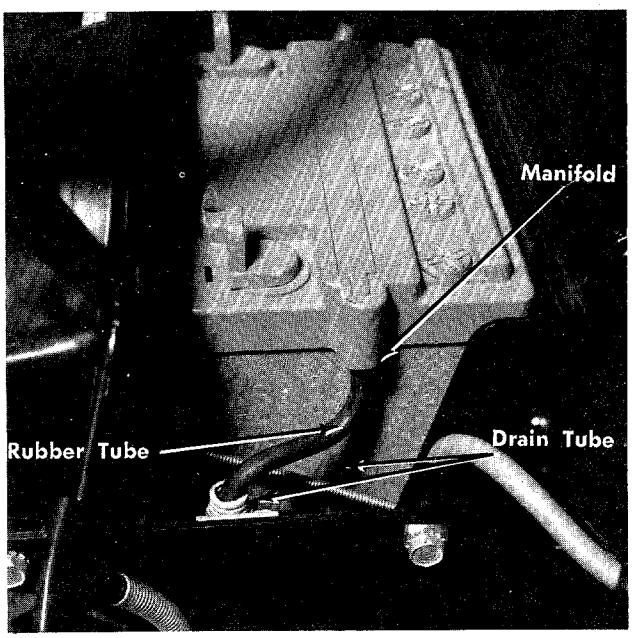


FIGURE 7.

NOTE

The vented battery allows any gases or liquid from the battery to be carried to the rear of the mower through the drain tube.

CAUTION

If the tractor is tipped up on end for any reason the battery must be removed. There may be a small amount of acid in the drain tube that can come out when the tractor is tipped.

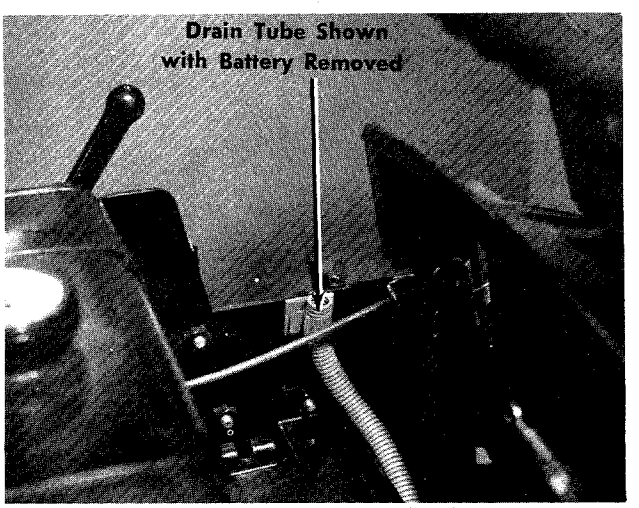


FIGURE 8.

DECK ASSEMBLY

Step 1. Place the deck wheel over the deck axle and secure it with washer "I" and cotter pin "K". See figure 9.

Step 2. Attaching the cutting deck.

a. Place either blocks of wood or bricks under the rear wheels so the cutting deck can slide under the tractor.

b. There are six link arms (4 long, 2 short) on the cutting deck. Swing all six arms into the forward position.

c. From the front of the rider, grasp both front links and hook them in the pins in frame and secure with cotter pins "H". See figure 10.

d. Place the two center links through the hole in the foot rest and attach the short slotted link to the pin in the lift arm and attach the long link to the pin in the frame. See figure 11.

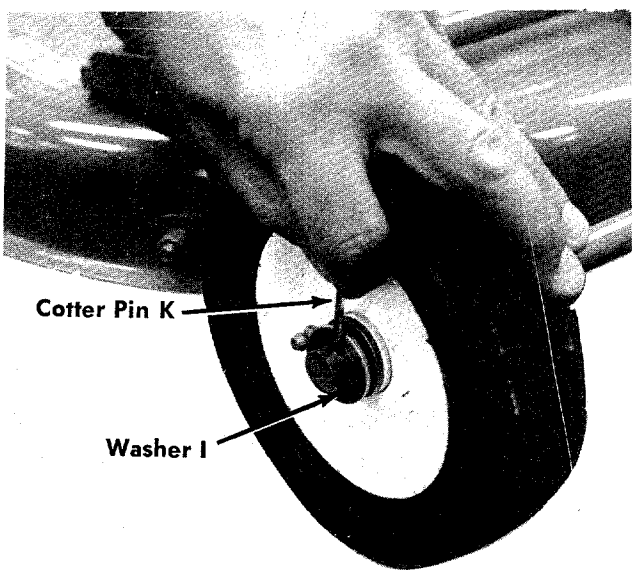


FIGURE 9. DECK WHEEL ASSEMBLY

e. Place washer "J" over the short slotted link and secure both links with cotter pins "H". See figure 11.

f. Pull the belt through the slot in the frame of the tractor.

g. Remove the top bolt on the belt guard. See figure 12.

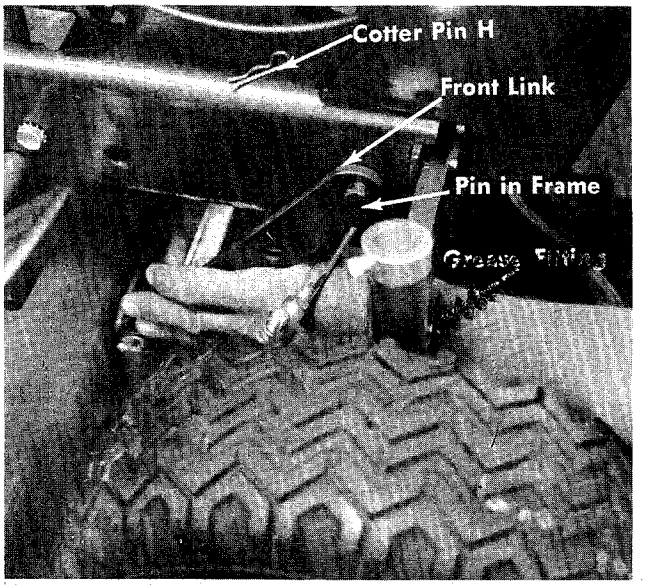


FIGURE 10. FRONT LINK ASSEMBLY

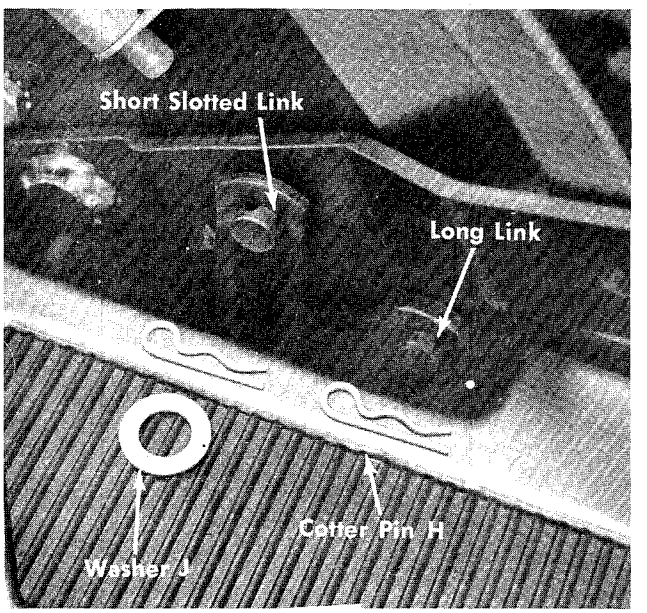


FIGURE 11. CENTER LINK ASSEMBLY

NOTE

Different heat shields are used depending on the style of muffler used on your tractor. If the heat shield on your tractor is attached to the belt guard it is necessary to remove the bolt and nut shown in figure 13.

h. Unplug the safety switch. See figure 13.

i. Remove the two bottom bolts on the belt guard. Lift off the belt guard. See figure 13.

j. Attach the deck belt to the engine pulley. See figure 14.

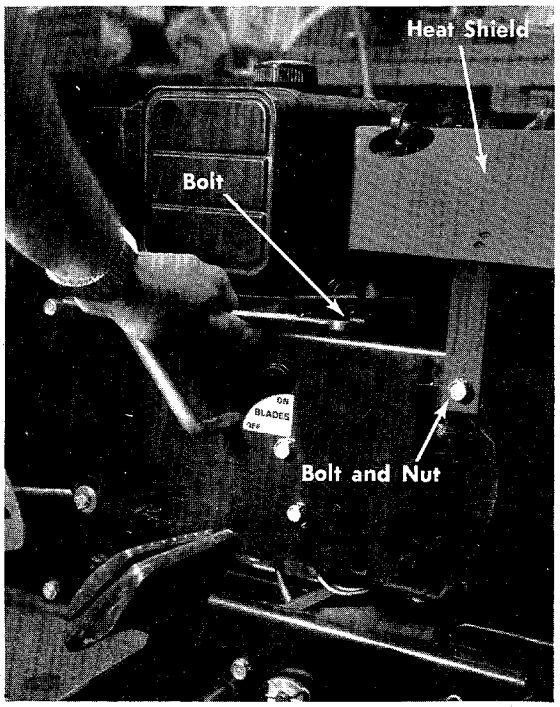


FIGURE 12. BELT GUARD

NOTE

Be sure the bottom part of the belt goes through the two brackets.

k. Remove the idler belt guard. See figure 15.

l. Reassemble the belt guard to the tractor.

m. Move the PTO lever to the ON position and reassemble the idler belt guard. See figure 16.

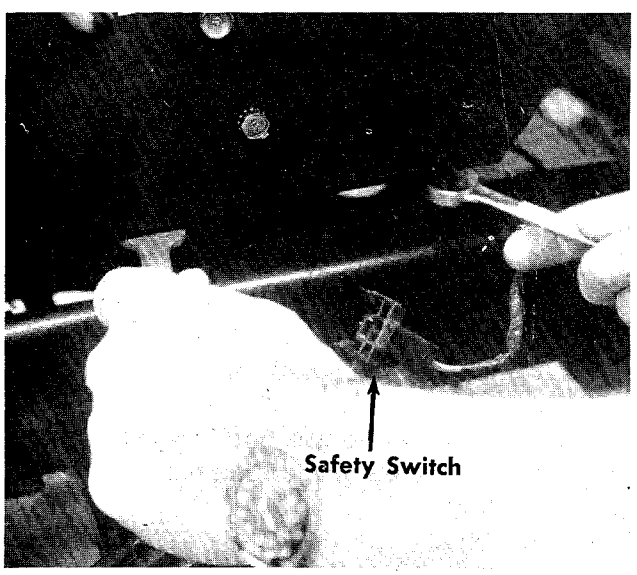


FIGURE 13. BELT GUARD REMOVAL

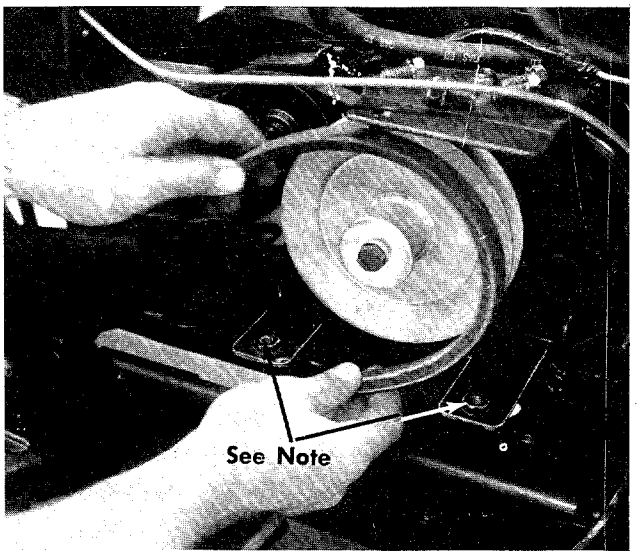


FIGURE 14. ATTACHING THE DECK BELT

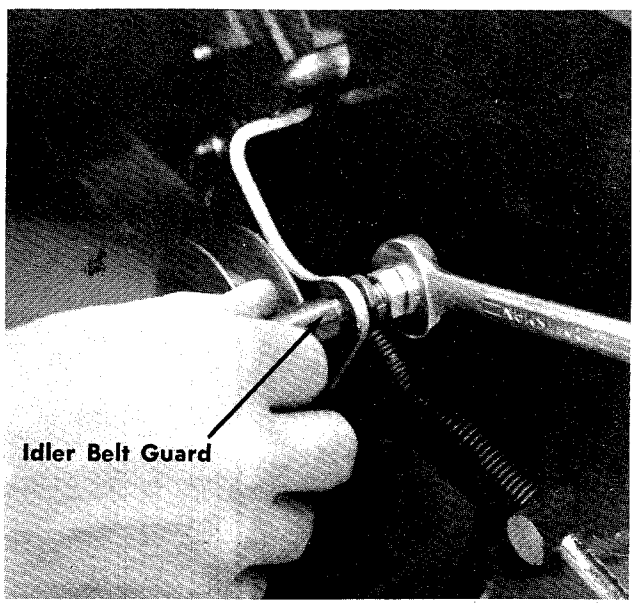


FIGURE 15. IDLER BELT GUARD

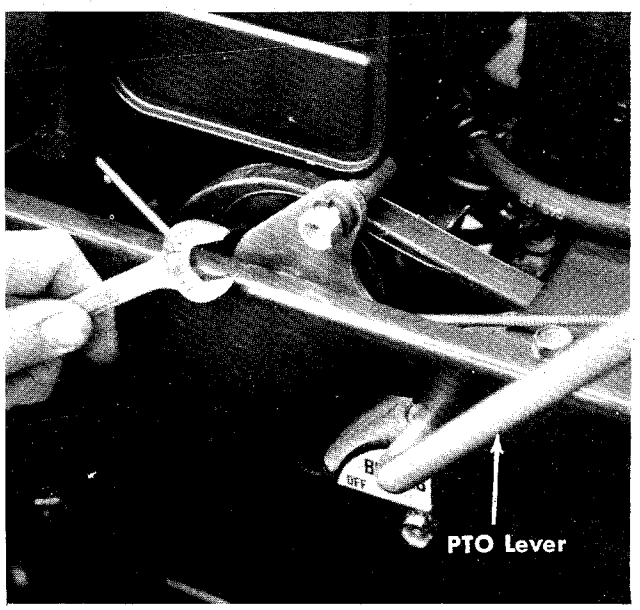


FIGURE 16. IDLER BELT GUARD

CONTROLS

The controls on your tractor may be considered as the following:

a. Throttle Control. The throttle control is used to regulate the engine speed and choke the engine. The engine should be operated from ¾ to full throttle when operating the cutting deck or snow thrower. (Optional)

b. Gear Shift Lever. Use the following guide for gear selection.

1st Gear:
- Heavy grass cutting
- Snow Blade
- Snow Thrower
- Pulling heavy loads

2nd Gear:
- Normal grass cutting
- Light snow throwing
- Pulling light loads

3rd Gear:
- Light grass cutting
- Road Gear

Reverse:
- Used to back up

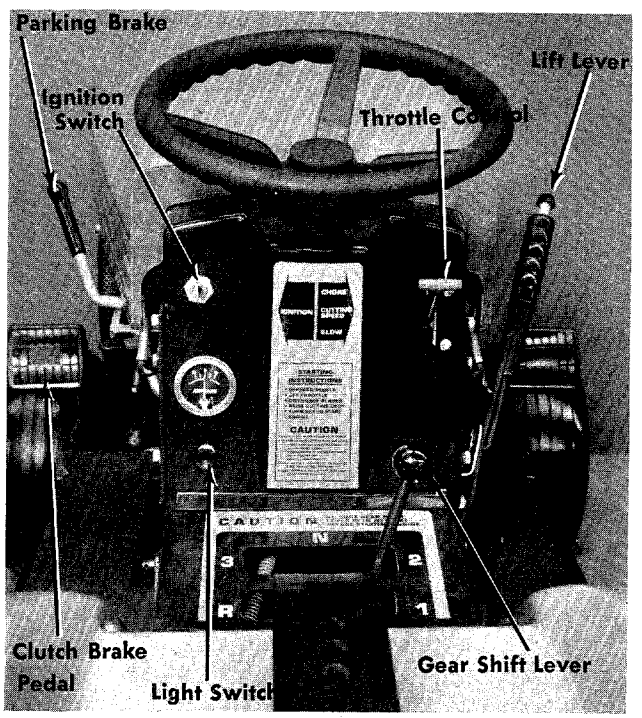


FIGURE 17. CONTROLS

c. Parking Brake. To set the parking brake, pull the parking brake lever back and hold it in the locked position while moving the locking arm to the left. See figure 15.

d. Clutch-Brake Pedals. Depress both of them all the way down to stop or shift gears. Release pedals slowly to engage. See figures 14 and 16.

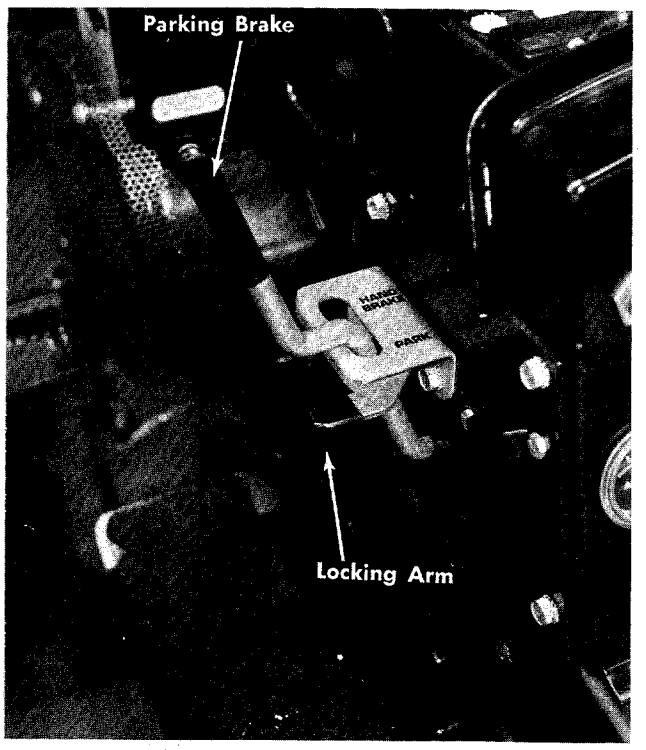


FIGURE 18. PARKING BRAKE

NOTE

The pedals must be depressed in order to start the engine.

CAUTION

Do not shift while in motion.

e. PTO Lever. The PTO lever engages the deck belt when it is moved forward. Moving it to the rear disengages the deck belt. The engine willnot start unless the PTO is in the OFF position as shown in figure 19.

f. Lift Lever. Depress the thumb button and pull back on the lift lever to raise the attachments. See figure 19.

g. Ignition Switch. Turn the switch all the way to the right to engage the starter. As soon as the engine starts, release the ignition key so that the starter is switched off. Turn the key to the left to shut off the engine. See figure 17.

NOTE

The clutch-brake pedal must be depressed and the PTO lever must be in the OFF position before the starter will operate.

h. Light Switch. Pull the light switch out to turn on the lights. See figure 17.

i. Ammeter. The ammeter registers the rate of battery charge or discharge. The ammeter should register on the plus (+) side when the engine is running in the fast position until the battery is completely charged. With a fully charged battery or with the engine idling the ammeter will not show a charge. See figure 17.

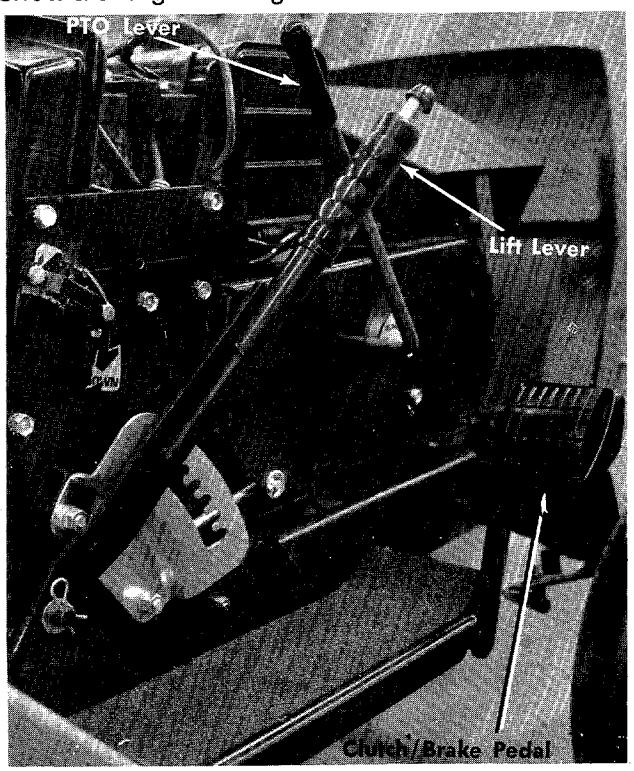


FIGURE 19. CONTROLS

j. Cutting Height 34" Cut Deck. Set the cutting height by setting both wheel height adjusters in the desired position and moving the lift lever all the way forward. See figure 20.

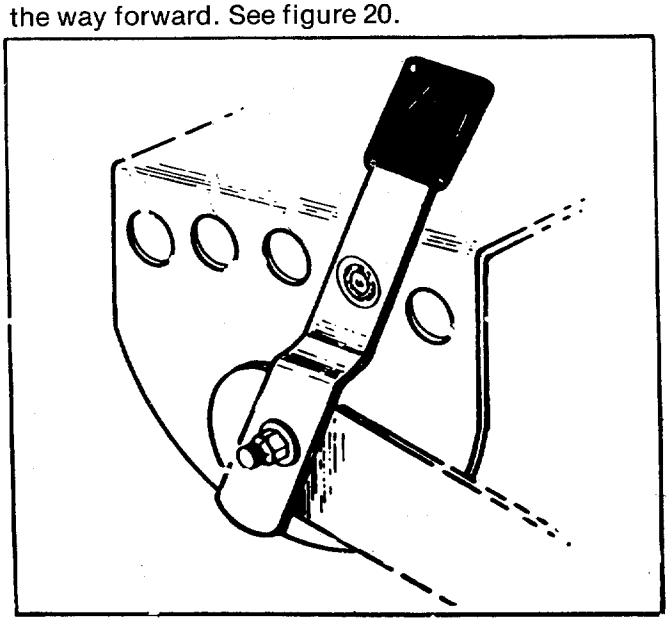


FIGURE 20. WHEEL HEIGHT ADJUSTER 34" DECK

NOTE

When cutting over rough terrain, set the cutting height with the lift lever and set the wheel height adjusters so they just clear the ground.

42" Cut Deck. The cutting height is adjustable by moving the height adjustment lever by the right deck wheel. Both deck wheels raise and lower together. See figure 21.

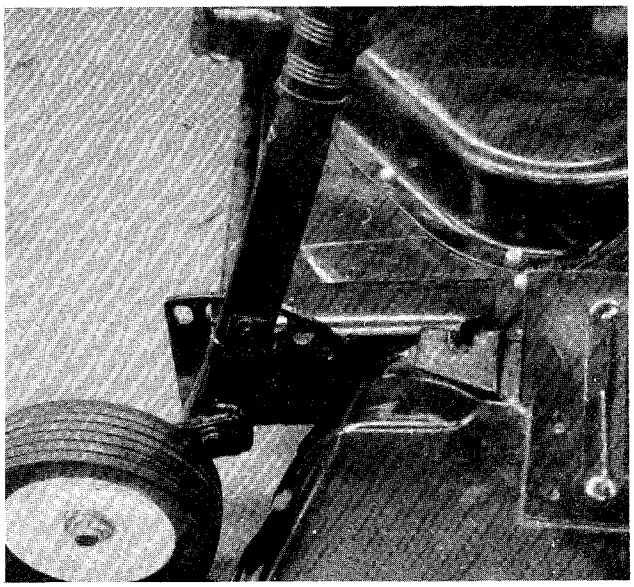


FIGURE 21. WHEEL HEIGHT ADJUSTER—42" DECK

CHECKING OIL AND GASOLINE

NOTE

When packaged for shipment, the machine contains no oil or gasoline. Before starting the engine, oil must be added to the engine crankcase and gasoline to the tank. DO NOT mix oil with gasoline.

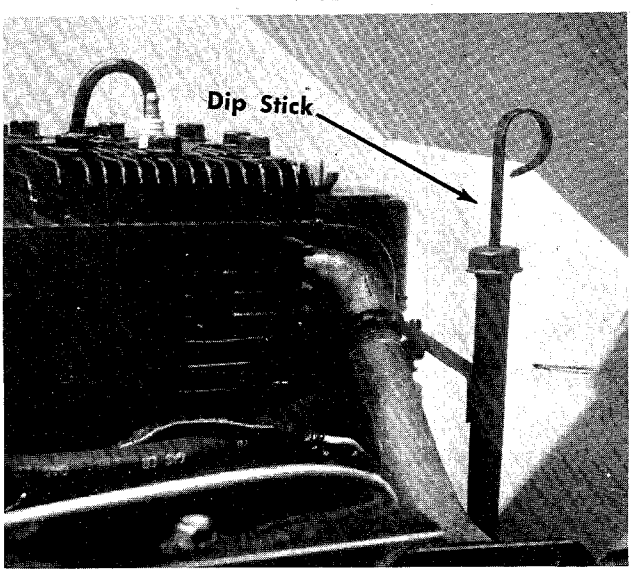


FIGURE 22. BRIGGS & STRATTON DIPSTICK

Briggs & Stratton. Use a high quality detergent oil classified "For Service SC or SD or MS". Nothing should be added to the recommended oil.

Summer. (Above 40°F.) Use SAE 30. If not available use SAE 10W-30 or SAE 10W-40.

Winter. (Under 40°F.) Use SAE 5W-20 or SAE 5W-30. If not available, use SAE 10W or SAE 10W-30. Below 0°F., use SAE 10W or SAE 10W-30 diluted 10% with kerosene.

Place the engine level. Fill the oil sump to the FULL mark on the dipstick. Pour slowly. See figure 22.

Crankcase	Capacity
8 H.P.	3 pints

OPERATING INSTRUCTIONS

WARNING

The mower shall not be operated without the entire grass catcher (optional) or chute deflector in place.

NOTE

Under normal usage the grass catcher bag material is subject to wear and should be checked periodically. Be sure any replacement grass catcher bag complies with the mower manufacturer's recommendations.

Use factory replacement bag number 764-0121.

After striking a foreign object, stop the engine (motor), remove the wire from the spark plug, thoroughly inspect the mower for any damage and repair the damage before restarting and operating the mower.

STARTING THE ENGINE

Refer to top of this page for information regarding oil and gasoline requirements, check that spark plug wire is connected, then proceed as follows:

Step 1. Be sure the fuel shut-off valve is open. See figure

Step 2. With the machine set on level ground place the gear shift lever in NEUTRAL (N) position. See figure 17.

Step 3. Place the PTO lever in the OFF position as shown in figure 19.

Step 4. Depress the clutch brake pedals all the way down. See figure 19.

Step 5. Set the throttle control in the CHOKE position.

Step 6. Turn the ignition key to the right to START position to start the engine. Allow the key to return to the ON position. See figure 17.

NOTE

A brief break-in period is essential to ensure maximum engine and mower life. This consists of running the engine at half speed for a period of time required to use one tank of gasoline. It is also recommended to change crankcase oil after the first 2 hours of operation.

Step 7. Set the desired cutting height. See figures 20 and 21.

Step 8. Lower the cutting deck with the lift lever. See figure 19.

Step 9. Slowly engage the PTO lever. See figure 19.

STOPPING THE ENGINE

To stop the engine, turn the ignition key to the left to the OFF position. Do not leave the key in the ignition switch.

WARNING

Whenever the mower is left unattended, disconnect the spark plug lead and remove the ignition key.

STOPPING THE BLADES

Move the PTO lever towards you to stop the blades from turning. See figure 19.

STOPPING THE RIDER

To stop the rider from moving forward or backward, depress the clutch-brake pedals. See figure 18.

CAUTION

1. Keep all shield and guards in place.
2. Before leaving the operator's position:
   - Shift transmission to neutral
   - Set parking brake
   - Disengage attachment clutch
   - Shut off engine
   - Remove ignition key
3. Wait for all movement to stop and remove spark plug lead before servicing machine.
4. Keep people and pets a safe distance away from machine.

CAUTION

Parking brake MUST be disengaged before unit is put into motion.

NOTE

Unit is equipped with separate brake and clutch pedals. To efficiently stop, it is necessary to disengage clutch when applying brakes.

MAINTENANCE

TROUBLESHOOTING

Refer to the chart on page 31 for troubleshooting engine problems.

CRANKCASE OIL

To ensure maximum engine performance, perform the following periodic maintenance:

a. Oil Check

Check the oil level in the crankcase before each use of the machine and after every two hours of operation. Keep the oil level between ADD and FULL. See figure 22.

b. Oil Change

After the first two hours of operating a new engine, drain the oil (see figure 23) from the crankcase while engine is still hot and refill crankcase with new oil; thereafter change the oil after every 25 hours of operation. This procedure ensures for minimum wear of engine parts and provides for virtually trouble-free operation. To change the oil, proceed as follows:

Step 1. Remove oil filler plug.

Step 2. Drain the oil through the hole in the frame.

Step 3. Replace oil filler plug.

Step 4. Refill crankcase with oil. See page 10 for quantity and type of oil.

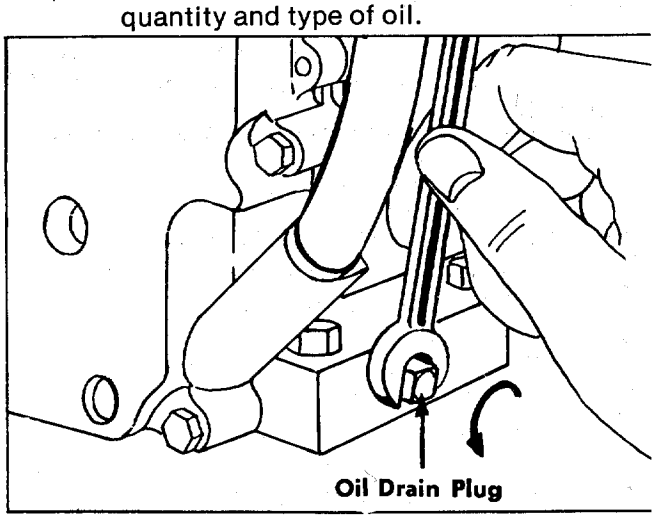


FIGURE 23. BRIGGS & STRATTON OIL DRAIN PLUG

TRANSAXLE LUBRICATION

The transaxle is lubricated at the factory with three pints of SAE 90 E.P. oil. When replacing or adding oil remove the oil fill plug and fill the gear case until it overflows from the fill plug. Replace the oil fill plug. Remove the drain plug from the bottom of the transaxle to drain the oil. The transaxle oil should be checked when the oil is cold. Change the oil once a year. See figure 24.

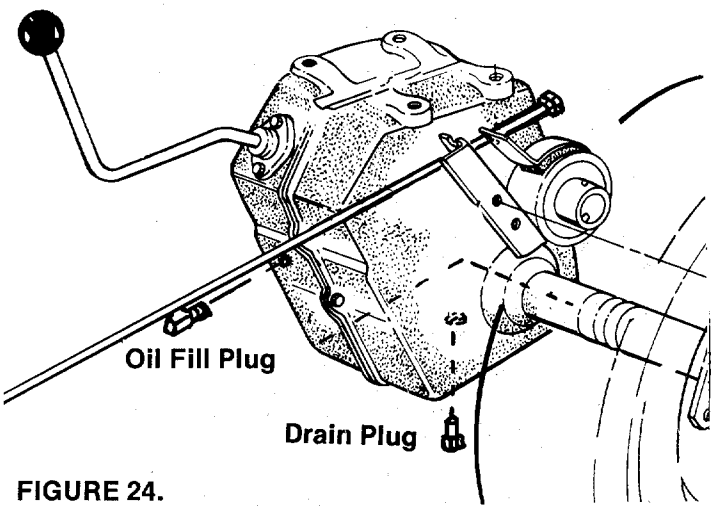


FIGURE 24.

WHEEL BEARING LUBRICATION

Front Wheels—The front wheel bearings are self-lubricating oilite bearings. No additional lubrication is necessary.

Rear Wheels—The rear wheel bearings are lubricated by the oil in the transaxle.

King Pins—The king pins have self-lubricating oilite bearings and require no additional lubrication.

Deck Wheel Bearings—The deck wheels should be removed once a year, cleaned and lubricated with a multi-purpose type of grease.

STEERING GEAR LUBRICATION

Lubricate the teeth on the steering segment, pinion gear and slide with automotive multi-purpose grease after every 24 hours of operation. See figure 25.

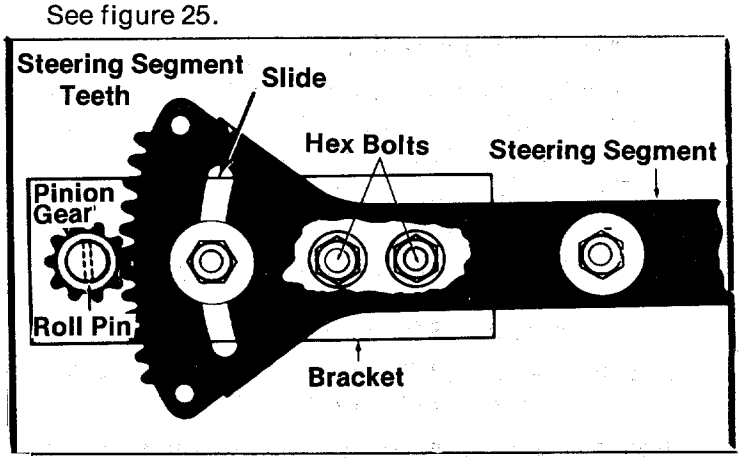


FIGURE 25. STEERING ASSEMBLY

RIGHT ANGLE DRIVE LUBRICATION

Check the lubricant level after every 24 hours of operation. Lubricate with 4 ounces of E.P.G. Lithium grease. Remove the four screws and take off the plate to check the grease level. See figure 26.

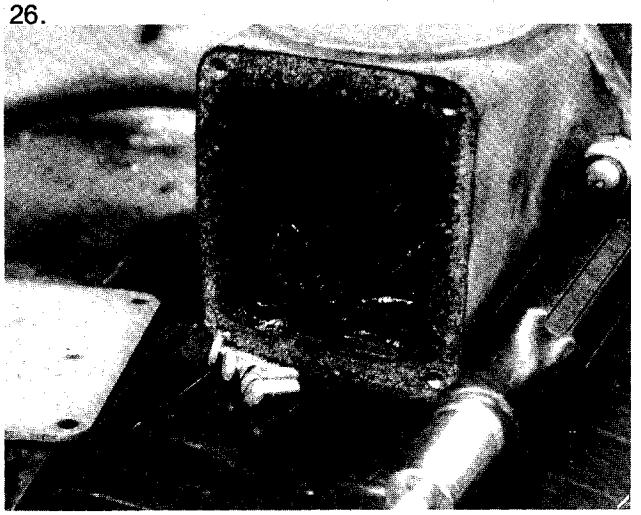


FIGURE 26. GEAR CASE GREASE LEVEL

STEERING ADJUSTMENT

The "play" or looseness of the steering can be adjusted by loosening the two hex bolts on the bracket and lightly tapping the bracket towards the front of the tractor. If the pinion gear becomes worn it can be rotated one-half turn by removing the pin. (See figure 25.)

AIR FILTER

Under normal operating conditions, the air cleaner, located on top of the carburetor, must be serviced after every ten hours of use. Under extremely dusty operating conditions, the air cleaner must be serviced after every hour of operation. See figure 27.

Step 1. Remove the wing nut and cover.

Step 2. Remove the paper element from the support base.

Step 3. To clean, tap the paper element (either top or bottom) on a flat surface or wash in a non-sudsing detergent and flush from the inside until the water is clear. After washing, air dry thoroughly before using.

Step 4. Assemble in reverse of above.

CLUTCH-BRAKE PEDAL ADJUSTMENT

To adjust the angle of the clutch-brake pedal, remove the cotter pin and washer on the clutch rod and turn the clutch rod in or out of the ferrule to obtain the most comfortable angle of the pedal when the pedal is released. Replace the washer and cotter pin. See figure 30.

The brake adjustment is made by using a ½" deep well socket and turning the adjusting nut clockwise through the opening in the back panel. This reduces the distance between the brake band and the drum. See figure 28.

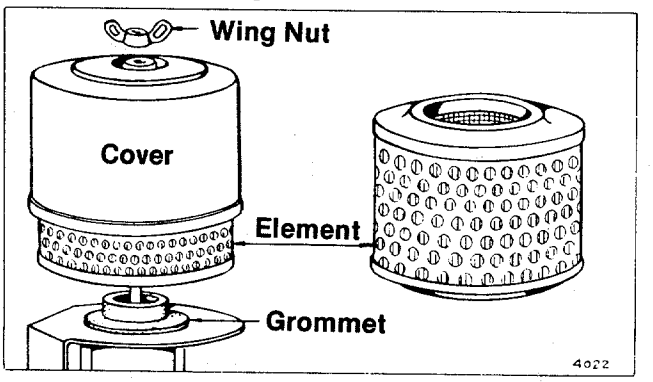


FIGURE 27. BRIGGS & STRATTON AIR FILTER

CAUTION

If the spring tension idler goes below the height of the engine pulley when the clutch-brake pedal is depressed it will cause excessive belt wear and the brake should be adjusted. See figure 30.

TRANSMISSION BELT REMOVAL

WARNING

Remove spark plug lead.

Step 1. Remove the deck belt from the engine pulley in reverse order as described in the assembly portion of this manual. See figures 9 through 14.

Step 2. Remove the hex bolt from the spring tension idler.

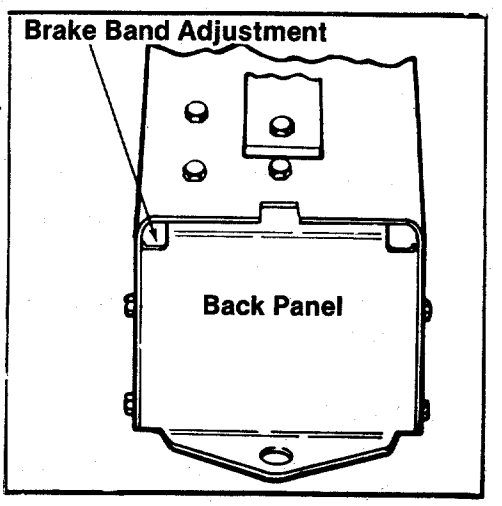


FIGURE 28. BACK PANEL

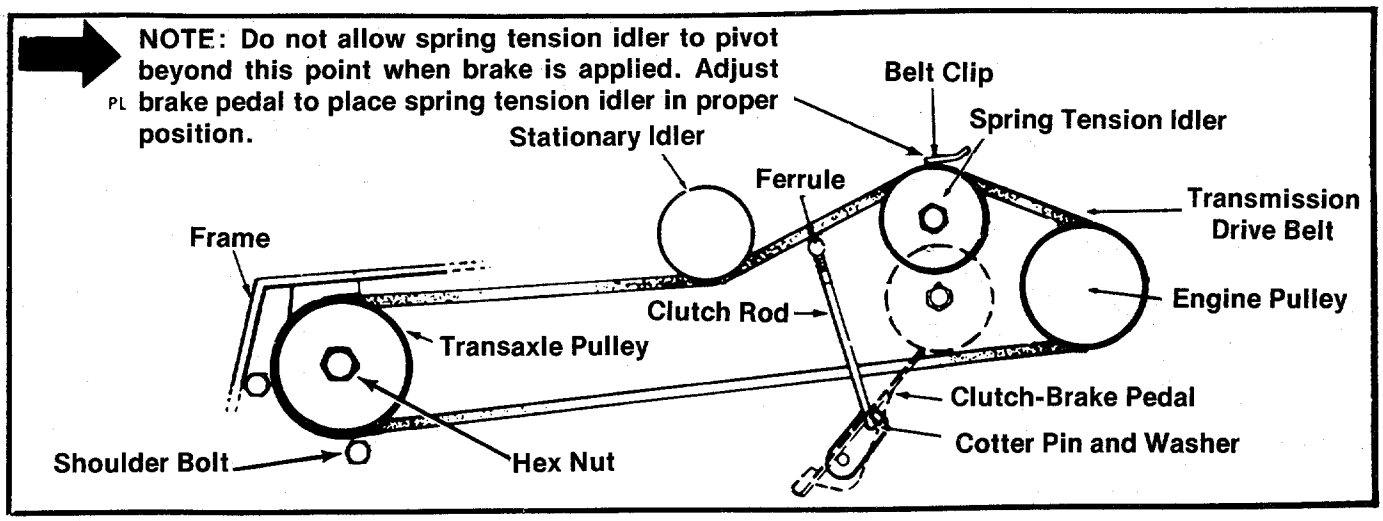


FIGURE 30. CLUTCH BRAKE PEDAL ADJUSTMENT

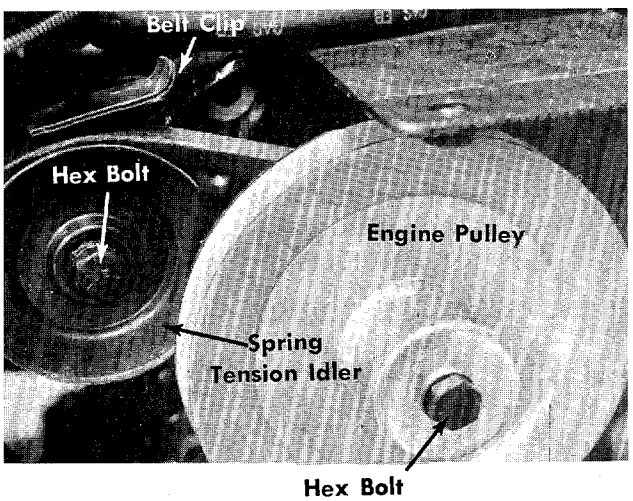


FIGURE 31. ENGINE PULLEY

NOTE

The idler bracket is notched so the belt clip will be correctly positioned.

Step 3. Remove the hex bolt holding the engine pulley to the crankshaft of the engine. Pull the pulley off so the belt can be removed. See figure 31.

Step 4. Remove the shoulder bolt near the transaxle pulley. See figure 30.

Step 5. Remove the hex nut on the pulley.

Step 6. Slide off the pulley.

Step 7. Re-assemble in reverse order with a new V-belt.

DECK DRIVE BELT

Step 1. Remove the belt guard over the belt. See figures 32 and 33.

Step 2. Remove the bolt holding the pulley to the gear box.

Step 3. Slide off the pulley and remove the belt.

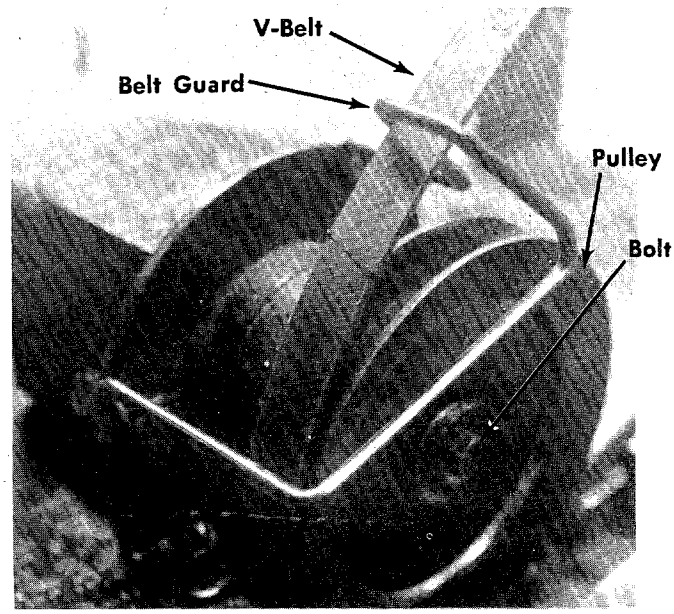


FIGURE 32. DECK DRIVE BELT

BLADE DRIVE BELT—34"

Step 1. Remove the two belt guards on the deck pulleys. (See figure 40.)

Step 2. Unhook the idler spring.

Step 3. Loosen the bolts holding the mounting bracket to the deck.

Step 4. Remove the belt.

Step 5. Replace the belt and reassemble in reverse order.

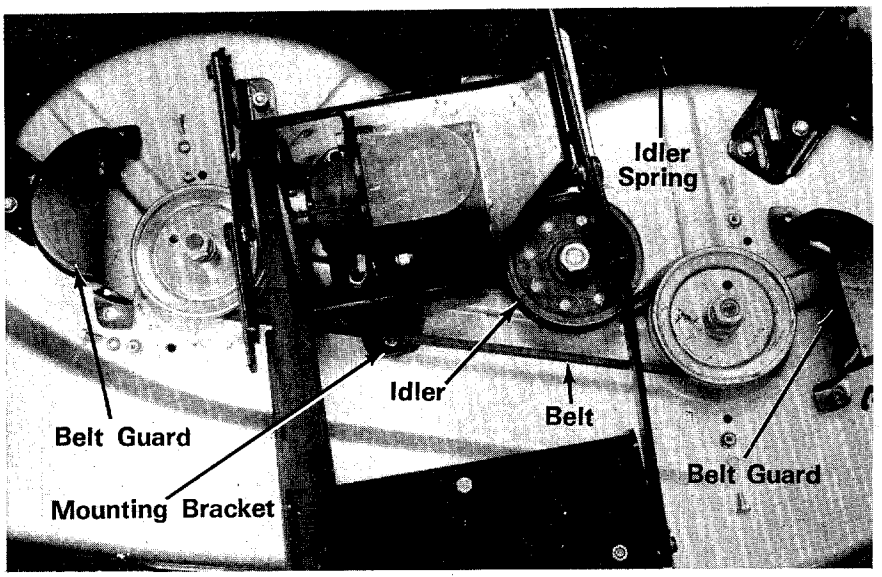


FIGURE 33.

STARTER-GENERATOR BELT

After the first ten hours of operation and periodically thereafter, the belt should be tightened or checked on the starter-generator. If the starter-generator turns over and the engine does not crank or there is a high pitched squeal when the starter-generator is turned on, it is an indication of a loose belt. To tighten, LOOSEN the two bolts on the bracket and LOOSEN the two bolts on the adjusting strap. Swing the starter-generator away from the engine, towards the rear of the mower, until the belt is tight. (Belt should deflect ¼" when depressed with your thumb.) Tighten all bolts. To remove the belt, loosen the starter-generator as described above and remove the belt from both pulleys. See figure 34.

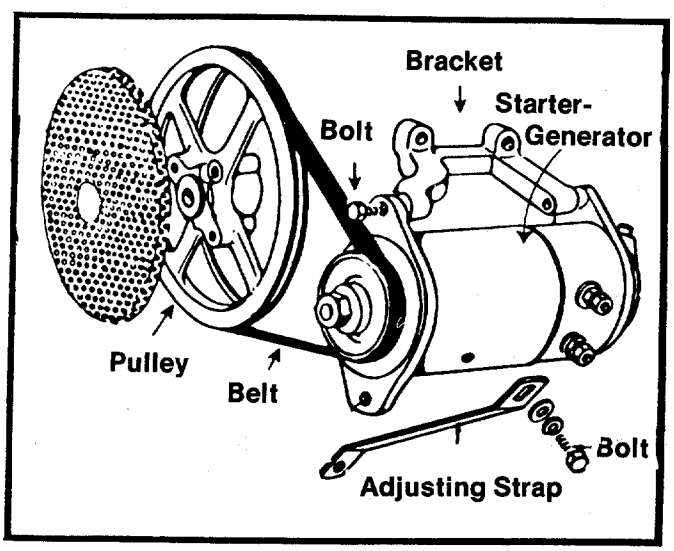


FIGURE 34. STARTER-GENERATOR BELT

REMOVING AND SHARPENING BLADES

Remove the center bolt and lockwasher. See figure 35. Pull the blade and blade adapter from the blade spindle.

The adapter can be removed from the blade by removing the two adapter bolts, lockwashers and nuts.

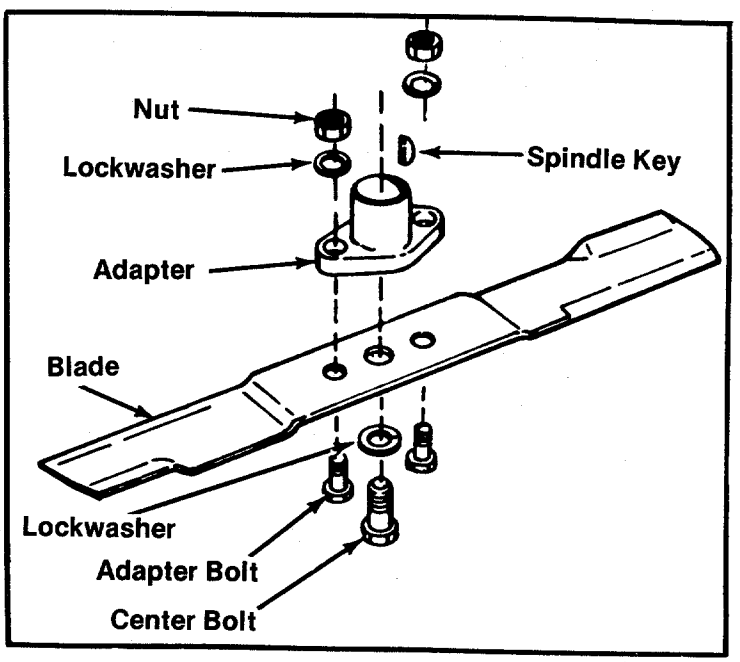


FIGURE 35. BLADE REMOVAL

WHEEL ADJUSTMENT

The caster (forward slant of the kingpin) and the camber (tilt of the wheels out at the top) requires no adjustment. Automotive steering principles have been used to determine the caster and camber on the tractor. The front wheels should

toe-in 1/8 inch. To adjust the toe-in, loosen the hex jam nut, remove the elastic locknut, drop the tie-rod end out of the hole in the steering arm and screw the tie-rod end in or out to make the adjustment. The distance "B" must be less than "A" by 1/8 inch. See figures 37 and 38.

To adjust the toe-in follow these steps:

1. Remove the elastic locknut and drop the tie rod from the wheel bracket. See figure 36.
2. Loosen the hex jam nut on the tie rod. See figure 36.
3. Adjust the tie rod assembly for correct toe-in. Dimension "B" should be approximately 1/8" less than dimension "A". See figure 37.
   A.) To increase dimension "B", screw tie rod end.
   B.) To decrease dimension "B", unscrew tie rod from tie rod end.
   C.) Reassemble tie rod. Check Dimension. Readjust if necessary.

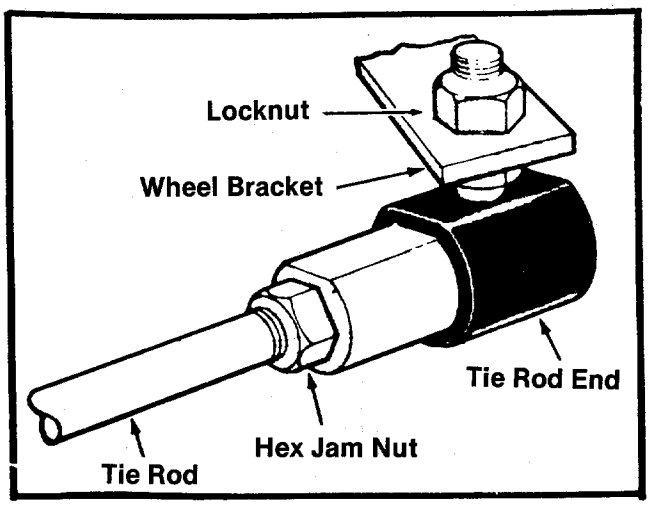


FIGURE 36. TIE ROD END

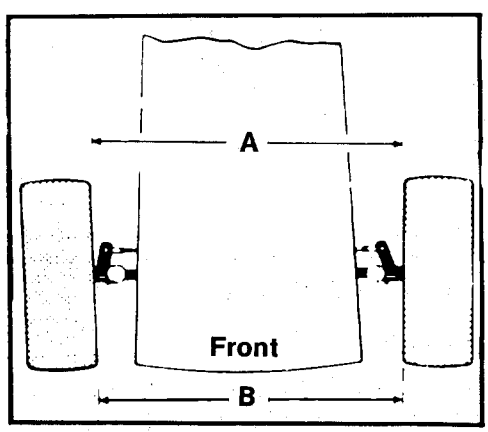


FIGURE 37. TOE-IN

CLEAN COOLING SYSTEM

Grass particles, chaff or dirt may clog the air-cooling system, especially after prolonged service in cutting dry grasses. Continued operation with a clogged cooling system may cause severe overheating and possible engine damage. It is necessary to remove the blower housing to completely clean this area. See figure 38.

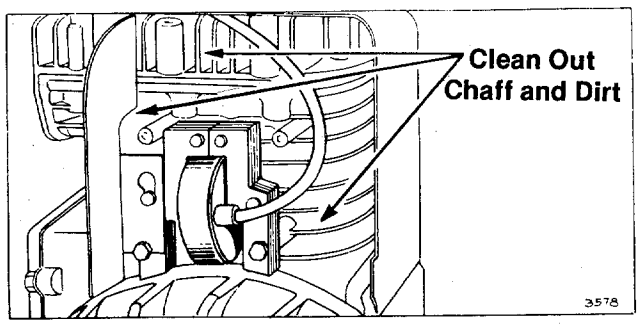


FIGURE 38. COOLING SYSTEM

FUEL SHUT-OFF VALVE AND FILTER

The fuel shut-off valve is located under the gasoline tank and is opened by turning it counter-clockwise. See figure 40.

The filter should be replaced once a year to insure operating your engine with clean fuel. To replace the filter, shut off the fuel valve and compress the legs of the clamps on both sides of the filter and slide them back. Replace the filter and replace the clamps.

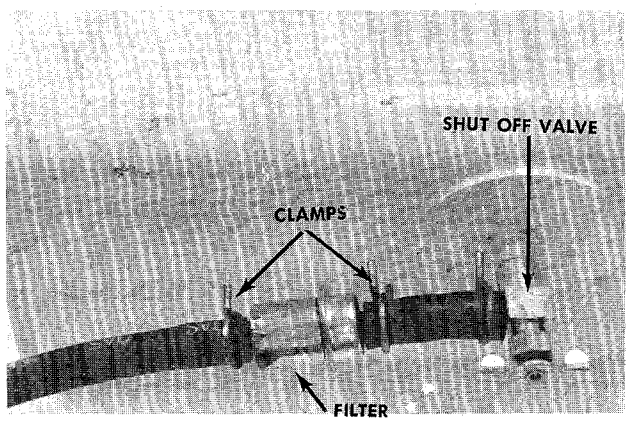


FIGURE 39. SHUT-OFF VALVE

CARBURETOR ADJUSTMENTS

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load.

To Adjust Carburetor: Turn needle valve clockwise until it just closes.

CAUTION

Valve may be damaged by turning it in too far.

Now open needle valve 1-1/8 turns counter-clockwise. Close idle valve in same manner and open 1-1/8 turns. This initial adjustment will permit the engine to be started and warmed up prior to final adjustment.

Final Adjustment: Turn needle valve in until engine misses (lean mixture) then turn it out past smooth operating point until engine runs unevenly (rich mixture). Now turn needle valve to the mid-point between rich and lean so the engine runs smoothly. Hold throttle at idle position and set idle speed adjusting screw until fast idle is obtained (1750 RPM). Hold throttle in idle position and turn idle valve in (lean) and out (rich) until engine idles smoothly. Then reset idle speed adjusting screw so that engine idles at 1750 RPM. Release throttle—engine should accelerate without hesitation or sputtering. If engine does not accelerate properly, the carburetor should be re-adjusted to a slightly richer mixture.

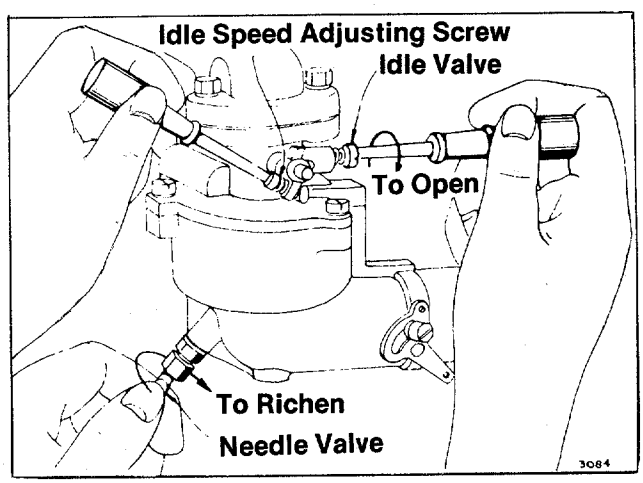


FIGURE 40. CARBURETOR ADJUSTMENT

CHOKE-A-MATIC CARBURETOR CONTROL

ADJUSTMENTS

Proper choke and stop switch operation is dependent upon proper adjustment of remote control on the powered equipment.

To Check Operation of Choke-A-Matic Controls:

a. Remove air cleaner.

b. Move remote control lever to CHOKE position. The carburetor choke should be closed.

c. Move remote control to STOP position. Lever should make good contact with stop switch.

To Adjust:

Place remote control lever on equipment in FAST (high speed) position. Loosen control casing clamp screw "B". Move control casing "A" and wire until lever "D" touches choke operating link at "C". Tighten casing clamp screw "B". Replace air cleaner.

OFF-SEASON STORAGE

If the machine is to be inoperative for a period longer than 30 days, the following precautions are recommended:

Step 1. Working outdoors, drain all fuel from the fuel tank. Use a clean dry cloth to absorb the small amount of fuel remaining in the tank, then run the engine until all fuel in carburetor is exhausted.

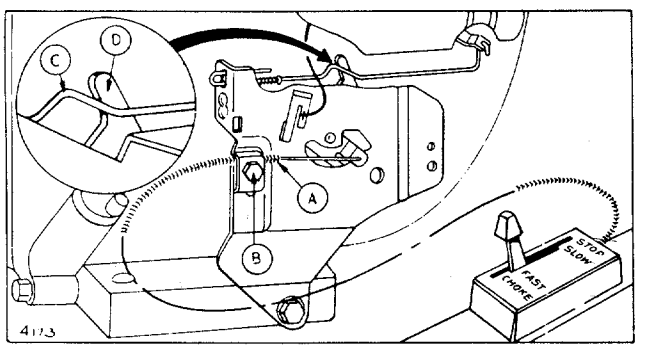


FIGURE 41. CHOKE ADJUSTMENT

WARNING

Do not drain fuel while smoking, or if near an open fire.

Step 2. Drain all the oil from the crankcase (this should be done after the engine has been operated and is still warm) and refill the crankcase with clean new oil.

Step 3. Disconnect the spark plug wire and remove the spark plug from the cylinder. Pour about six drops of engine oil into the cylinder and then pull the recoil starter several times to spread the oil on the cylinder wall. Replace the spark plug, but DO NOT connect the wire.

Step 4. Clean the engine and the entire mower thoroughly.

Step 5. Lubricate all lubrication points indicated in the Maintenandce Section, then wipe the entire machine with an oiled rag in order to protect the surfaces.

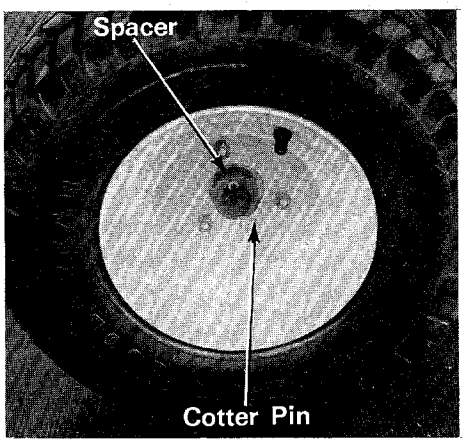
WHEEL SPACERS

The spacers on the rear wheels must be on the outside of the wheels as shown in figure 42 when using the mowing deck.

If tire chains or a draw bar hitch is used on the tractor it will be necessary to remove the cotter pins, spacers and wheels. Place the spacers on the axles and secure with the cotter pins.

NOTE

You cannot operate the tractor with mowing deck when the spacers are installed on the inside of the wheels.



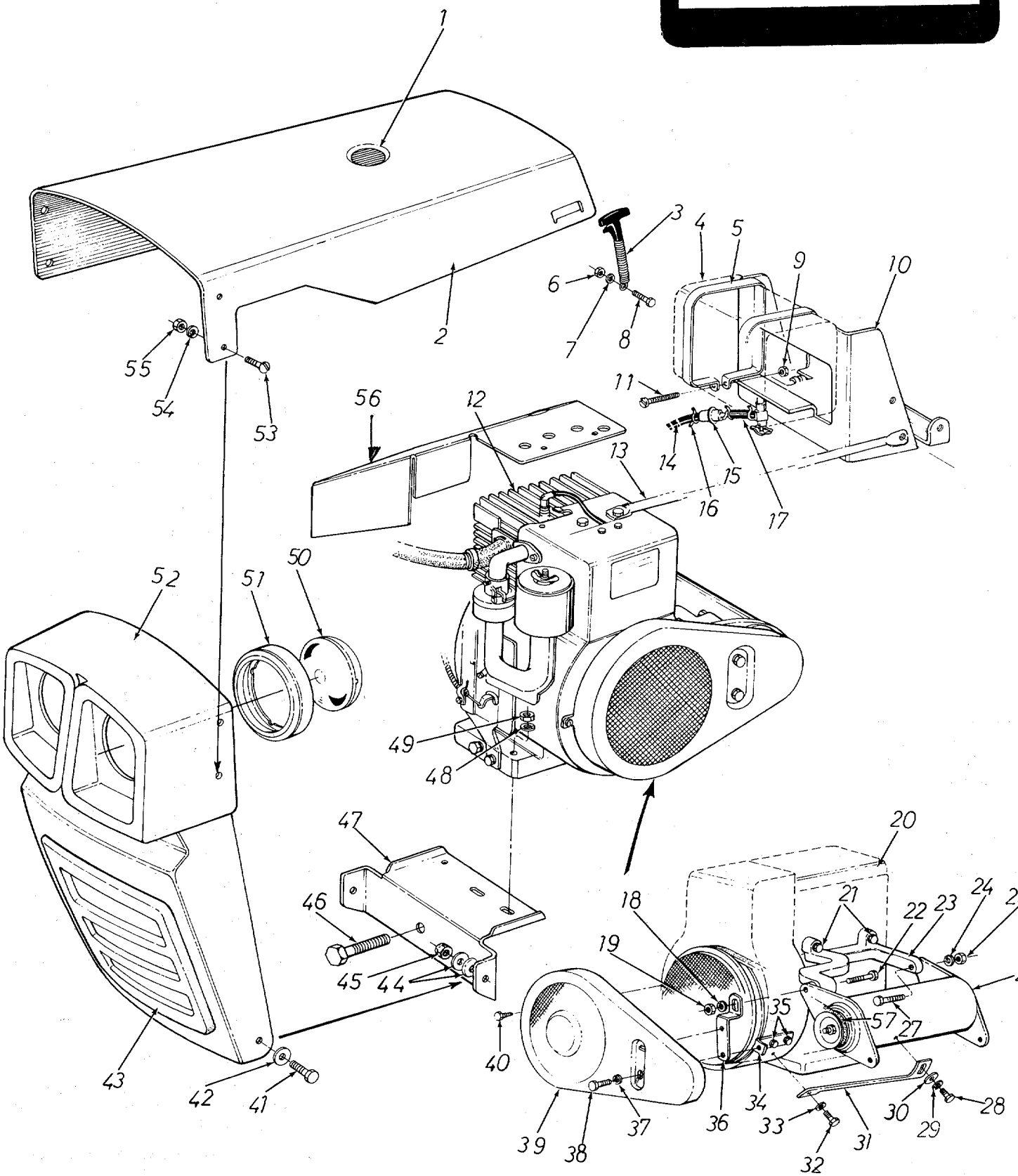
Trouble Shooting Chart

Problem	Cause	Remedy
1 Engine fails to start	**A** Check fuel tank for gas	**A** Fill tank if empty
	B Spark plug lead wire disconnected	**B** Connect lead wire
	C Throttle control lever not in the starting position	**C** Move throttle lever to start position.
	D Faulty spark plug	**D** Spark should jump gap between control electrode and side electrode. If spark does not jump, replace the spark plug.
	E Carburetor improperly adjusted Engine flooded	**E** Remove spark plug, dry the plug, crank engine with plug removed, and throttle in off position. Replace spark plug and lead wire and resume starting procedures.
2 Hard starting or loss of power	**A** Spark plug wire loose	**A** Connect spark plug wire
	B Carburetor improperly adjusted	**B** Adjust carburetor. See engine section of this manual.
	C Dirty air cleaner	**C** Clean air cleaner as described in the Engine section of this manual.
3 Operation erratic	**A** Dirt in gas tank	**A** Remove the dirt and fill tank with fresh gas
	B Dirty air cleaner	**B** Clean air cleaner as described in the engine section of this manual
	C Water in fuel supply	**C** Drain contaminated fuel and fill tank with fresh gas.
	D Vent in gas cap plugged	**D** Clear vent or replace gas cap
	E Carburetor improperly adjusted	**E** Adjust carburetor. See engine section of this manual.
4 Occasional skip (hesitates) at high speed	**A** Carburetor idle speed too slow	**A** Adjust carburetor. See engine section of this manual.
	B Spark plug gas too close	**B** Adjust to .030"
	C Carburetor idle mixture adjustment improperly set	**C** Adjust carburetor. See engine section of this manual.
5 Idles poorly	**A** Spark plug fouled, faulty, or gap too wide.	**A** Reset gap to .030" or replace spark plug
	B Carburetor improperly adjusted	**B** Adjust carburetor. See engine section of this manual.
	C Dirty air cleaner	**C** Clean air cleaner as described in the engine section of this manual.
6 Engine overheats	**A** Carburetor not adjusted properly	**A** Adjust carburetor. See engine section of this manual.
	B Air flow restricted	**B** Remove blower housing and clean as described in the engine section of this manual.
	C Engine oil level low	**C** Fill crankcase with the proper oil
7 Excessive vibration	**A** Cutter blade loose or unbalanced	**A** Tighten blade and adapter.

146-660A

IF YOU WRITE TO US ABOUT THIS ARTICLE OR IF YOU ORDER REPLACEMENT PARTS ALWAYS MENTION THIS MODEL & SERIAL NO

MODEL



PARTS LIST FOR 146-660A

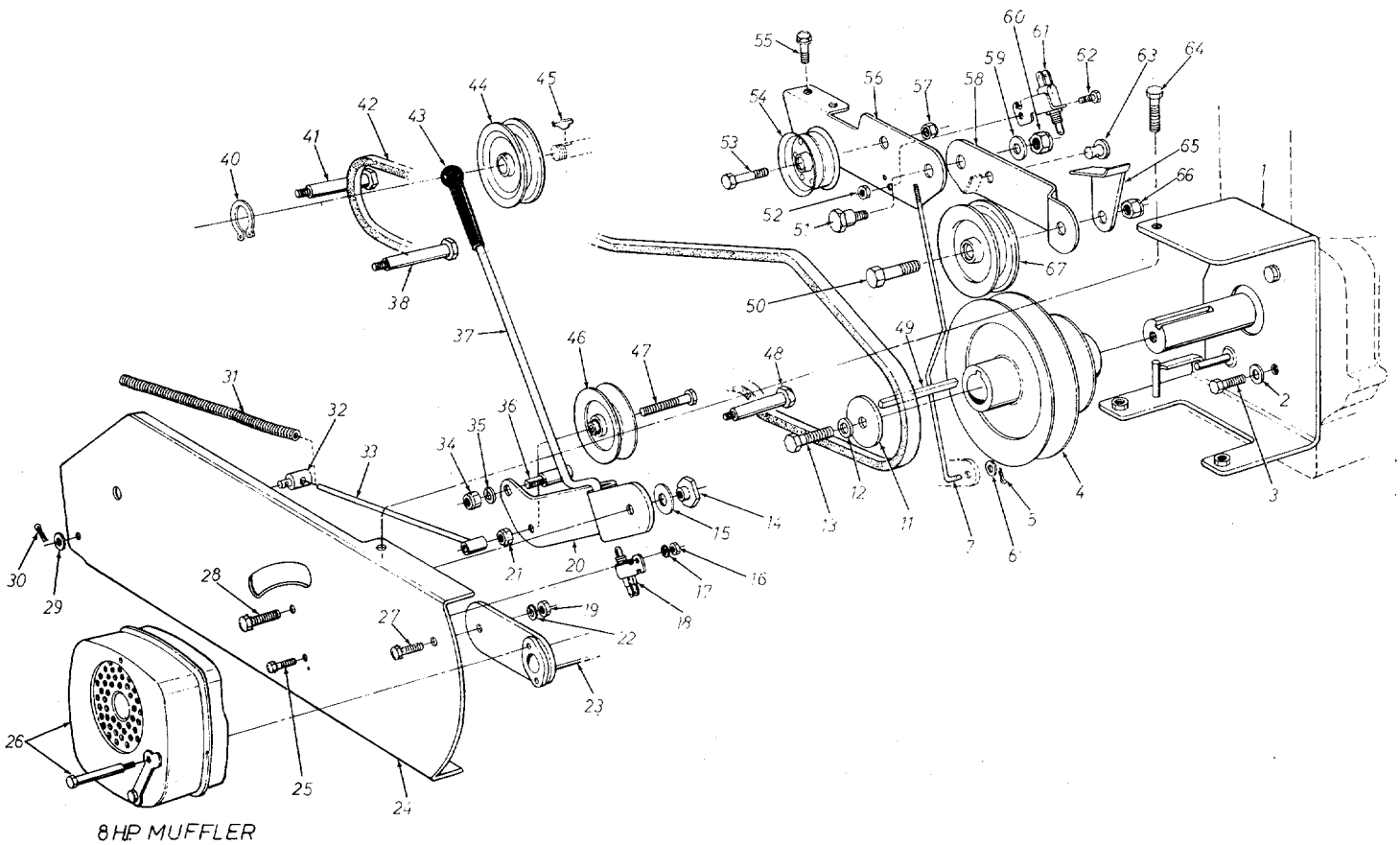
REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	723-0155		Fuel Gauge	
2	11970		Hood	
3	723-0296		Hood Lock Ass'y.	
4	723-0149		Fuel Tank	
5	723-0151		Fuel Tank Strap	
6	712-0138		Hex Nut ¼-28 Thd.*	
7	736-0329		Spring L-Wash. ¼" *	
8	710-0195		Hex Hd. Scr. ¼-28 x .62"*	
9	712-0287		Hex Nut ¼-20 Thd.*	
10	11967		Battery Box Ass'y.	
11	710-0279		Mach. Scr. ¼-20 x 1.75"*	
12	—		Engine	
13	11999		Reinforcement Bracket	
14	723-0153		Fuel Hose ¼ I.D. x 10½ Lg.	
15	723-0154		Fuel Filter	
16	723-0157		Hose Clamp	
17	723-0152		Fuel Hose ¼ I.D. x 1½ Lg.	
18	736-0119		Spring L-Wash. 5/16*	
19	712-0267		Hex Nut 5/16-18 Thd.*	
20	—		Engine	
21	—		Engine Part	
22	738-0380		Hex Scr. 5/16-24 x 1.75"	
23	—		Engine Part	
24	736-0119		Spring L-Wash. 5/16"*	
25	712-0267		Hex Nut 5/16-18*	
26	725-0143		Starter—Generator	
27	710-0380		Hex Scr. 5/16-24 x 1.75	
28	—		Engine Part	
29	—		Engine Part	
30	736-0264		Fl-Wash. .344 I.D.*	
31	—		Engine Part	
32	—		Engine Part	
33	—		Engine Part	
34	—		Engine Part	
35	—		Engine Part	
36	—		Engine Part	
37	736-0329		Spring L-Wash. ¼*	
38	710-0258		Hex Scr. ¼-20 x .63*	
39	09284		Belt Cover	
40	710-0148		Hex Scr. #8-32 x .38*	
41	710-0344		Hex Scr. 3/8-16 x 1½*	
42	736-0300		Fl-Wash. .385 I.D.*	
43	731-0208		Grille Insert	
44	736-0105		Bell. Wash.	
45	712-0130		Hex Locknut 3/8-16*	
46	710-0533		Hex Scr. 5/8-18 x 2½*	
47	11946		Front Pivot Support	
48	736-0119		Spring L-Wash. 5/16*	
	736-0169		Spring L-Wash. 3/8*	
49	712-0267		Hex Nut 5/16-18*	
	712-0798		Hex Nut 3/8-16*	
50	725-0222		Headlamp	
51	735-0156		Headlamp Mount	
52	719-0201		Grille	
53	710-0255		Truss Mach. Scr. ¼-20 x .75*	
54	736-0329		Spring L-Wash. ¼ Scr.*	
55	712-0287		Hex Nut ¼-20 Thd.*	
56	12635		Heat Shield	
57	754-0134		V-Belt 3/8 x 33.2 G-8110-1884	

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(459—Mag Flake)

When ordering parts if color or finish is important, use color code shown at left. (e.g. Mag Flake Finish—11970—459 Hood)

146-660A



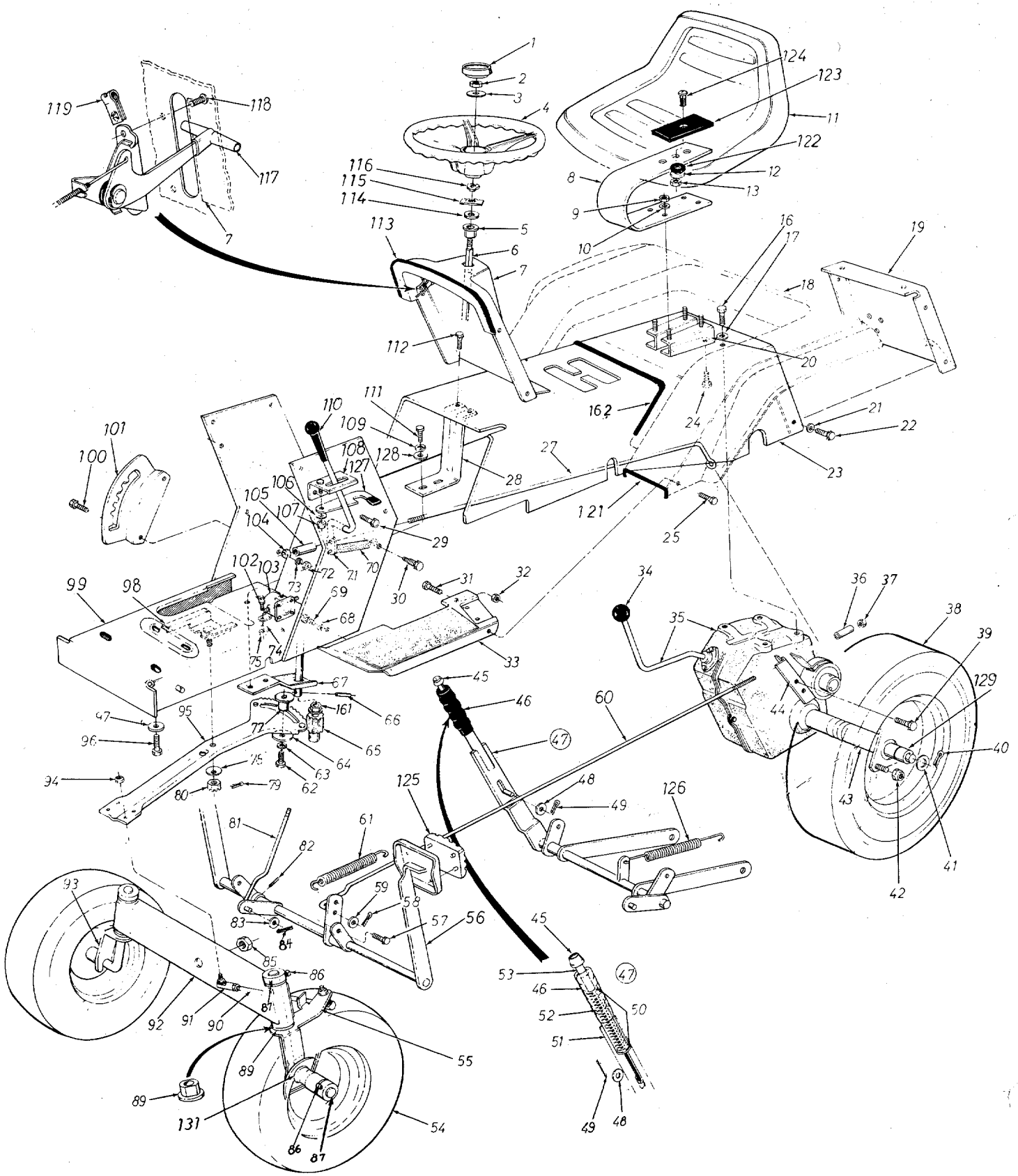
PARTS LIST FOR 146-660A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	11938		Engine Mtg. Brkt.		36	738-0209		Lockout Shaft	
2	736-0119		Spring L-Wash 5/16*		37	11947		Clutch Brkt. Ass'y.	
3	710-0118		Hex Scr. 5/16-18 x .75*		38	738-0215		Shld. Scr. .498 Dia. x 3"	
4	756-0201		Engine Two Step Pulley		40	716-0101		Snap Rind .750 Dia.	
5	714-0474		Cotter Pin 1/8 x .75*		41	738-0215		Shld. Scr. .498 Dia. x .3"	
6	736-0264		Fl-Wash. .344 I.D.*		42	754-0182		V-Belt 21/32 x 81 G8002-5002	
7	711-0218		Clutch Rod		43	720-0143		Grip	
11	07386		Washer		44	756-0204		Pulley 5.25 Dia.	
12	736-0169		Spring L-Wash. 3/8*		45	714-0314		#9 Hi-Pro Key 3/16 x 3/4	
13	710-0191		Hex Scr. 3/8-24 x 1.25*		46	756-0236		Idler Pulley	
14	711-0404		Shoulder Nut		47	710-0427		Hex Scr. 3/8-16 x 2 Lg.*	
15	736-0100		Fl-Wash. .531 I.D.*		48	738-0146		Shld. Scr. .500 Dia. x 1.35	
16	712-0324		Hex Ins. L-Nut ¼-20*		49	714-0114		Sq. Key ¼ x 2"*	
18	725-0268		Safety Switch		50	710-0459		Hex Scr. 3/8-24 x 1.5 Lg.*	
19	712-0267		Hex L-Nut 5/16-18*		51	738-0143		Shld. Scr. .498 Dia. x .340	
20	11947		Clutch Brkt. Ass'y.		52	712-0324		Hex Ins. L-Nut ¼-20 Thd.*	
21	712-0130		Hex Ins. L-Nut 3/8-16*		53	710-0459		Hex Scr. 3/8-24 x 1.5*	
22	736-0119		Spring L-Wash. 5/16*		54	756-0117		Flat Idler	
23	751-0137		Muffler Ext. Ass'y.		55	710-0198		Hex Sems Scr. 5/16-18 x .75 Lg.*	
24	11940		Clutch Cover Plate						
25	710-0322		Hex Sems Scr. 5/16-18 x 1 Lg.*		56	08620		Clutch Mtg. Brkt.	
					57	712-0116		Hex Ins. L-Nut 3/8-24*	
26	—		Lo-Tone Muffler Engine Part		58	09200		Clutch Brkt.	
27	710-0198		Hex Sems Scr. 5/16-18 x .75*		59	736-0300		Fl-Wash. .385 I.D.*	
28	710-0322		Hex Sems Scr. 5/16-18 x 1*		60	712-0130		Hex Ins. L-Nut 3/8-16*	
29	736-0159		Fl-Wash. .344 I.D.*		61	725-0268		Safety Switch	
30	714-0111		Cotter Pin 3/32 x 1 Lg.*		62	710-0258		Hex Scr. ¼-20 x .62*	
31	732-0281		Clutch Spring		63	711-0179		Adj. Ferrule	
32	711-0432		Brake Ferrule		64	710-0198		Hex Sems Scr. 5/16-18 x .75*	
33	11964		Spring Guide Ass'y.		65	08664		Belt Keeper	
34	712-0798		Hex Nut 3/8-16*		66	712-0116		Hex Ins. L-Nut 3/8-24*	
35	736-0169		Spring L-Wash. 3/8*		67	756-0116		Idler	

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(459—Mag Flake) When ordering parts if color or finish is important, use color code shown at left. (e.g. Mag Flake Finish—11970 (459).)

146-660A



PARTS LIST FOR 146-660A

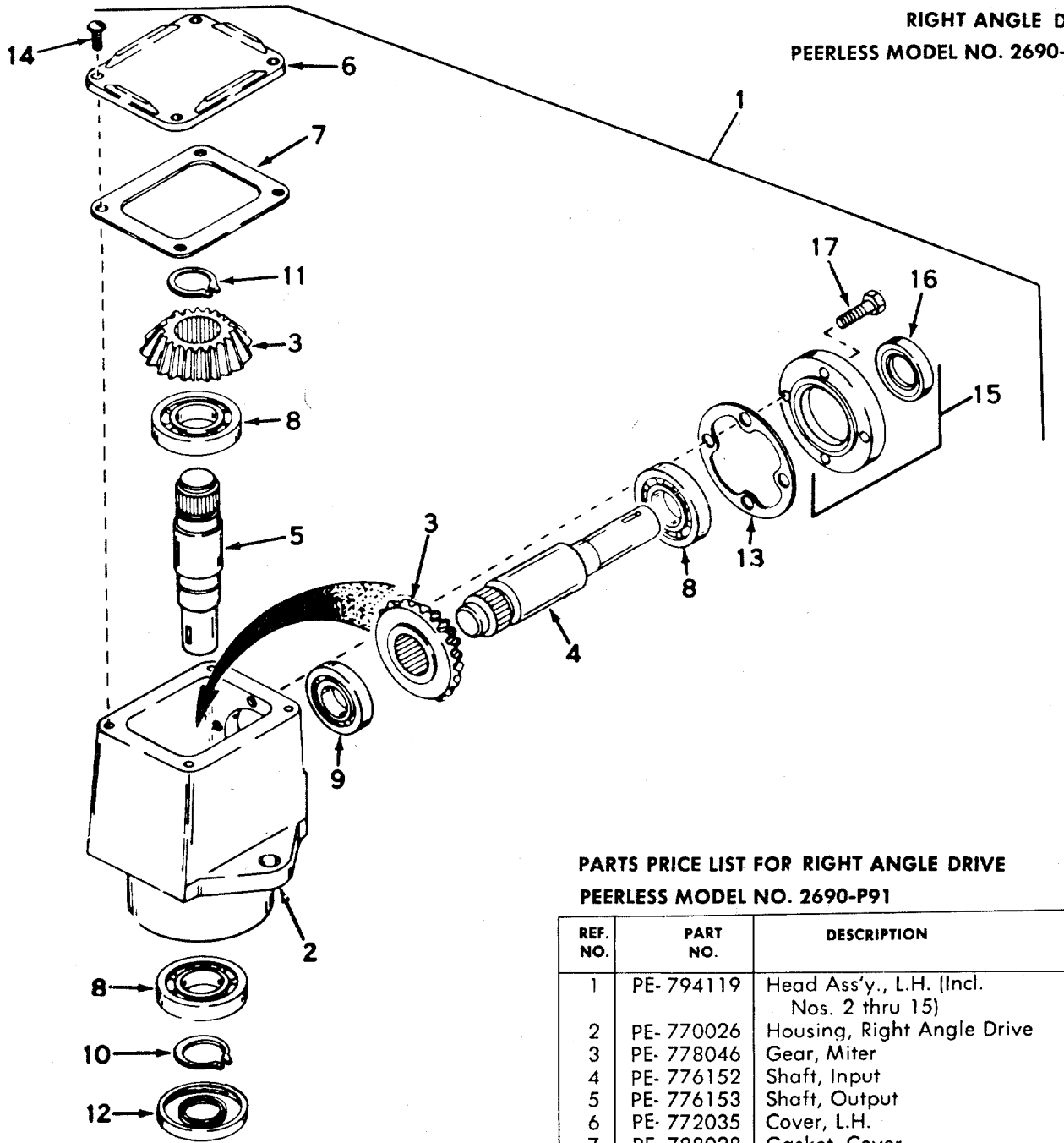
REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	731-0220		Steering Wheel Cap	
2	712-0158		Hex Cent. L-Nut 5/16-18 Thd.*	
3	736-0174		Wave Wash. .660 I.D.	
4	731-0219		Steering Wheel	
5	748-0227		Hex Flange Bearing .630 Dia.	
6	738-0203		Steering Shaft	
7	11976		Dash Panel Ass'y.	
8	732-0256		Seat Spring	
9	712-0267		Hex Nut 5/16-18 Thd.*	
10	736-0119		Spring L-Wash. 5/16*	
11	757-0264		Seat	
12	736-0208		Fl-Wash. .510 I.D.*	
13	712-0384		Hex Cent. L-Nut ½-13*	
14	712-0267		Hex Nut 5/16-18 Thd.*	
15	736-0119		Spring L-Wash. 5/16*	
16	710-0216		Hex Scr. 3/8-16 x .75*	
17	736-0169		Spring L-Wash. 3/8*	
18	11975		Rear Fender	
19	08597		Frame Plate Ass'y.	
20	11988		Fender Support Ass'y.	
21	736-0169		Spring L-Wash. 3/8*	
22	710-0216		Hex Scr. 3/8-16 x .75*	
23	11954		Frame Ass'y.	
24	710-0198		Hex Sems Scr. 5/16-18 x .75 Lg.*	
25	710-0252		Hex Scr. ¼-20 x .75	
26	10614		Vinyl Pad	
27	747-0100		Hand Brake Rod	
28	08618		Reinforcement Brkt Ass'y.	
29	710-0198		Hex Sems Scr. 5/16-18 x .75*	
30	711-0220		Hex Hd. Step Scr.—Spec.	
31	710-0377		Hex Sems Scr. ¼-20 x .63*	
32	712-0287		Hex Nut ¼-20 Thd.*	
33	11986		Running Bd. R.H.	
	11985		Running Bd. L.H. (not shown)	
34	722-0116		Gear Shift Knob	
35	—		Transaxle (see breakdown)	
36	750-0187		Spacer Tube	
37	712-0429		Hex Ins. L-Nut 5/16-18 Thd.	
38	734-0447		Wheel Ass'y. Comp. 18 x 9.50	
	734-0448		Tire Only 18 x 9.50	
	734-0449		Rim for 18 x 9.50	
	734-0331		Tube for Service Only	
	734-0255		Valve Stem	
39	710-0198		Hex Sems Scr. 5/16-18 x .75*	
40	714-0142		Cotter Pin 3/16 x 1.50*	
41	736-0163		Fl-Wash. 1.03 I.D.*	
42	712-0193		Cone Nut 3/8-24 Thd.*	
43	12355		Rear Wheel Hub	
44	08622		Brake Ass'y. Comp.	
	761-0152		Brake Drum	
	714-0388		Key	
	736-0231		Washer	
	710-0538		Hex Scr. 5/16-18 x .62*	
45	726-0110		Push Cap	
46	08818		Grip	
47	11521		Lift Handle Comp.	
48	736-0234		Fl-Wash. .385 I.D.*	
49	714-0474		Cotter Pin 1/8 x .75*	
50	736-0300		Fl-Wash. .300 I.D.*	
51	11983		Lift Handle Ass'y.	
52	732-0156		Compression Spring	
53	750-0124		Spacer	
54	734-0649		Fr. Wheel Ass'y. 13 x 6.50	
	734-0650		Tire Only 13 x 6.50	
	734-0499		Rim for 13 x 6.50	
	734-0255		Valve Stem	
55	11979		Fr. Axle Ass'y. L.H.	
56	12661		Foot Pedal Ass'y.	
57	710-0209		Hex Sems Scr. 3/8-16 x .62*	
58	714-0474		Cotter Pin 1/8 x 75*	
59	736-0264		Fl-Wash. .344 I.D.*	
60	711-0203		Brake Rod	
61	732-0180		Extension Spring	
62	710-0344		Hex Scr. 3/8-16 x 1.5*	
63	736-0169		Spring L-Wash. 3/8*	
64	07386		Washer	
65	748-0203		Spur Gear 12 Teeth	
66	715-0247		Spring Pin 3/16 x 1" Lg.*	
67	10043		Lower Mtg. Brkt.	
68	736-0169		Spring L-Wash. 3/8 Scr.*	
69	710-0253		Hex Scr. 3/8-16 x 1 Lg.*	
70	732-0264		Extension Spring	
71	11513		Hand Brake Lever	
72	712-0798		Hex Nut 3/8-16*	
73	736-0148		Ext. L-Wash. 3/8*	
74	736-0329		Spring L-Wash. ¼*	
75	712-0287		Hex Nut ¼-20 Thd.*	
77	750-0215		Steering Spacer	
78	736-0112		Bell. Wash. .535 I.D.	
79	714-0115		Cotter Pin 1/8 x 1" Lg.*	
80	712-0114		Hex Slotted Nut ½-20*	
81	711-0218		Clutch Rod	
82	710-0938		Set Scr. ¼-28 x .25 Lg. Cup Point*	
83	736-0264		Fl-Wash. .344 I.D.*	
84	714-0474		Cotter Pin 1/8 x .75 Lg.*	
85	712-0923		Hex Cent. L-Nut 5/8-18*	
86	710-0494		Sq. Hd. Set Scr. 5/16-18 x .33 Cup Point*	
87	711-0518		Collar ¾ I.D.	
89	748-0209		Flange Bearing	
90	711-0209		Tie Rod	
91	723-0156		Ball Joint (tie rod end) 3/8-24	
92	11833		Fr. Pivot Bar Ass'y.	
93	11980		Fr. Axle Ass'y. R.H.	
94	712-0116		Hex Ins. L-Nut 3/8-24*	
95	11965		Steering Segment	
96	710-0116		Hex Scr. 5/16-18 x 2*	
97	736-0133		Fl-Wash. .406 I.D.*	
98	—		Part of Ref. 99	
99	11955		Fr. Frame Ass'y.	
100	710-0253		Hex Scr. 3/8-16 x 1 Lg.*	
101	11971		Index Brkt.	
102	710-0258		Hex Scr. ¼-20 x .63*	
103	725-0270		Solenoid	
104	712-0324		Hex L-Nut ¼-20 Thd.*	
105	750-0219		Spacer	

PARTS LIST (CONTINUED)

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
106	736-0142		Fl-Wash. .281 I.D.*	
107	712-0324		Hex L-Nut ¼-20*	
108	11500		Hand Brake Brkt. Ass'y.	
109	736-0169		Spring L-Wash. 3/8*	
110	720-0143		Grip	
111	710-0253		Hex Scr.3/8-16 x 1 Lg.*	
112	712-0253		Hex Scr. 3/8-16 x 1 Lg.*	
113	731-0144		Vinyl Strip	
114	736-0156		Fl-Wash. .635 I.D.*	
115	712-0222		Push Nut .620 Dia.	
117	746-0220		Throttle Control	
118	710-0192		Truss Hd. Scr. #10-24*	
119	712-0147		Speed Nut #10-24*	
120	731-0253		Vinyl Strip	
121	731-0252		Vinyl Strip	
122	736-0159		Rubber Washer	
123	735-0163		Rubber Pad	
124	710-0365		Bolt ½-13 x .88* (if loose)	
125	10614		Vinyl Foot Pad	
126	732-0191		Spring	
127	11504		Hand Brake Stop Lever	
	11249		Knob Only	
128	736-0105		Bell. Wash.	
129	750-0257		Hub Sleeve	
131	748-0184		Front Hub Bearing	
162	731-0253		Ext. U-Chan. Vinyl 10" Lg. Black	

146-660A

RIGHT ANGLE DRIVE
PEERLESS MODEL NO. 2690-P91



PARTS PRICE LIST FOR RIGHT ANGLE DRIVE
PEERLESS MODEL NO. 2690-P91

REF. NO.	PART NO.	DESCRIPTION
1	PE-794119	Head Ass'y., L.H. (Incl. Nos. 2 thru 15)
2	PE-770026	Housing, Right Angle Drive
3	PE-778046	Gear, Miter
4	PE-776152	Shaft, Input
5	PE-776153	Shaft, Output
6	PE-772035	Cover, L.H.
7	PE-788028	Gasket, Cover
8	PE 780034	Bearing, Ball
9	PE-780024	Bearing, Ball
10	PE-788019	Ring, Snap
11	PE-788018	Ring, Snap
12	PE-788029	Seal, Oil
13	PE-788030	Gasket, Cap
14	PE-792025	Scr., Rd. Hd. Self Tap 10-24 x ½
15	PE-786029	Cap & Seal Assy., Retainer (Incl. Nos. 16 & 17)
16	PE-788031	Seal, Oil
17	PE-792043	Scr., Hex Hd. ¼-20 x 1

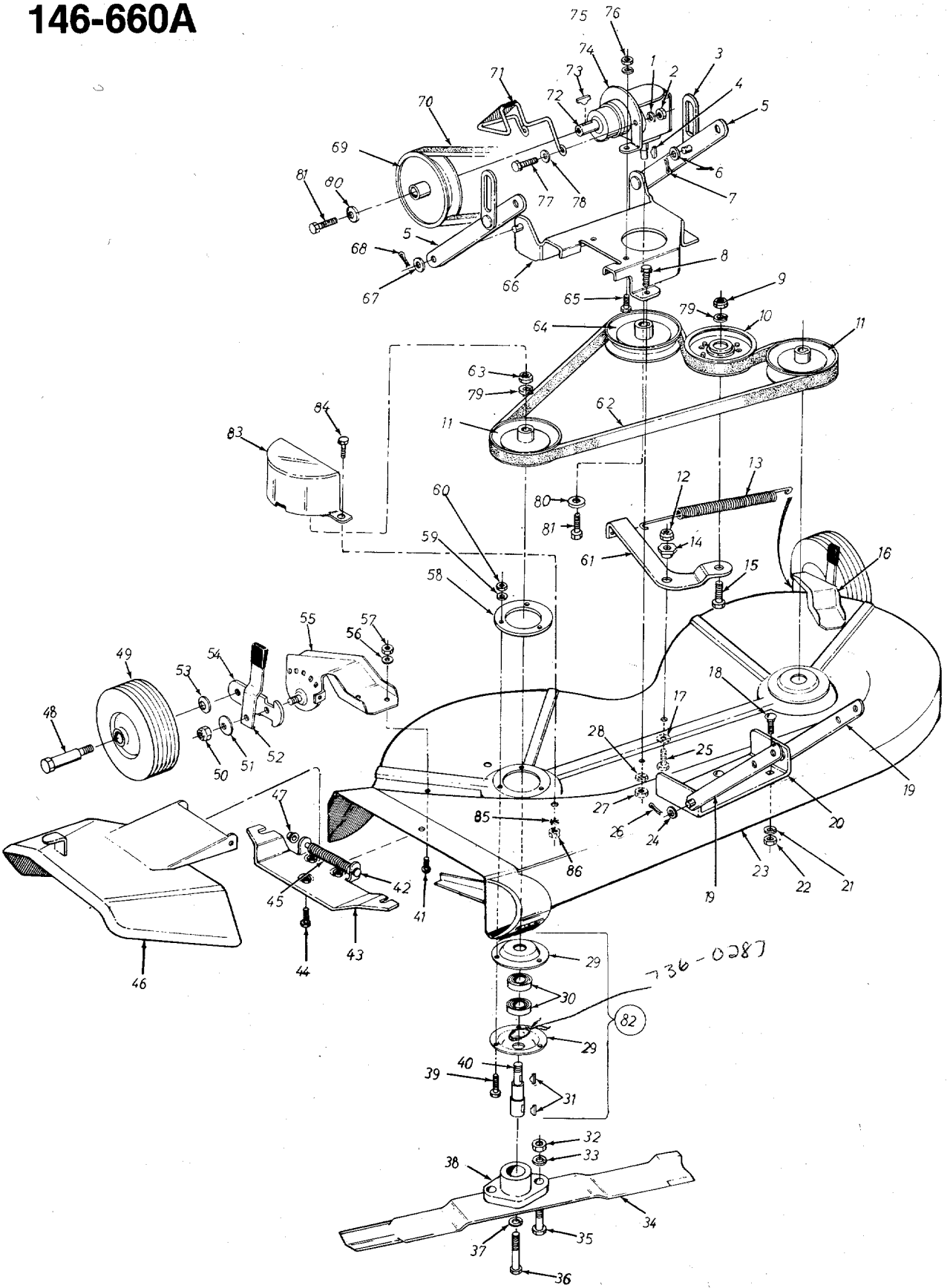
NOTE: This unit is not under warranty by the mower manufacturer. All Part Orders and Service must be handled through the Local Authorized Tecumseh Service Dealer.

Find It Fast
In The
'Yellow Pages'

PEERLESS MODEL NO. 2690-P91

This unit is under warranty by Tecumseh Products Company. Parts and Service are available through all Tecumseh, Lauson Power Products Service Dealers. Check the "Yellow Pages" of your telephone directory under "Engines—Gasoline."

146-660A



34" MOWING UNIT

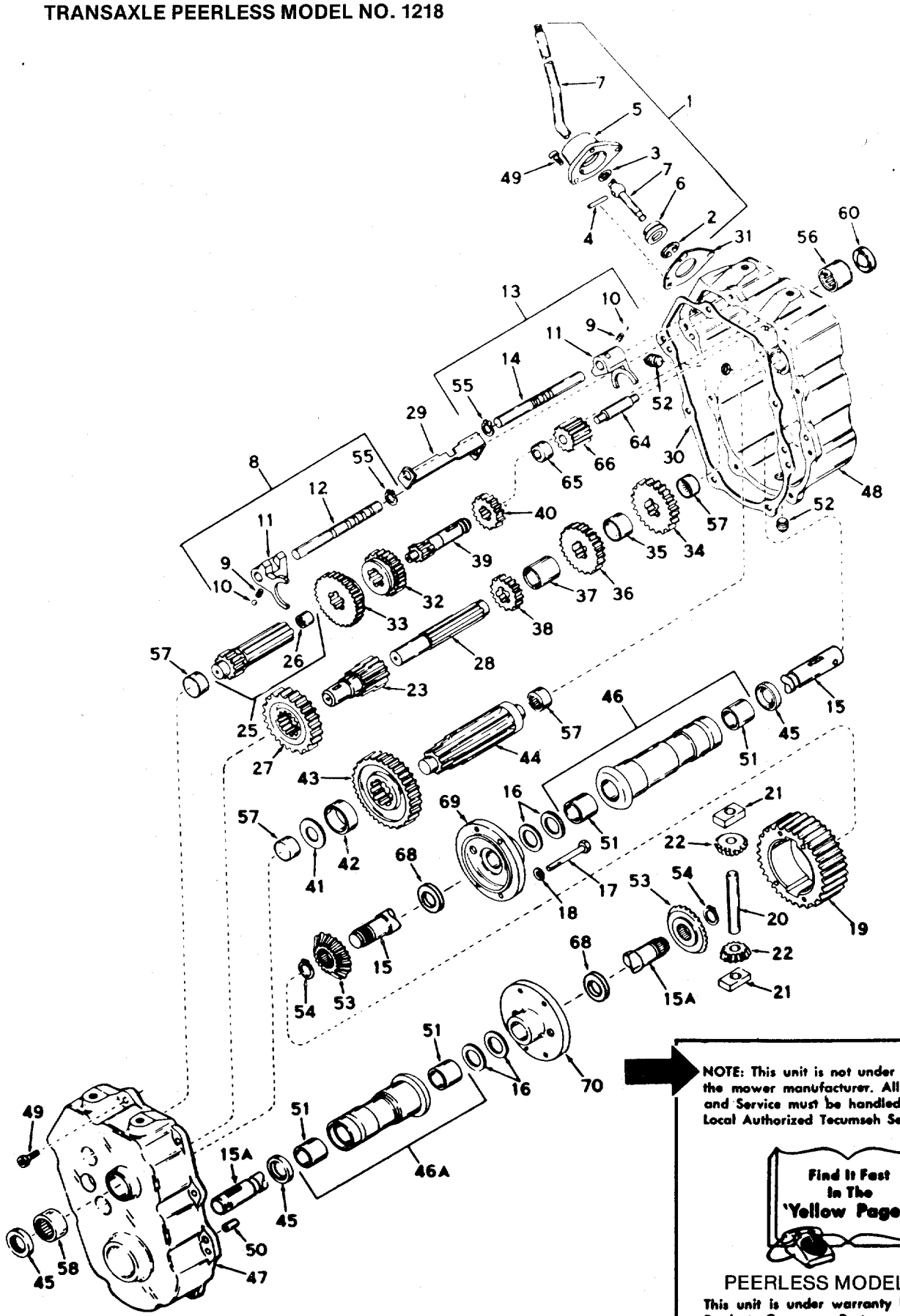
PARTS LIST FOR 34" MOWING UNIT USED ON 146-660A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	736-0148		Ext. L-Wash. 3/8" Scr.*	
2	712-0798		Hex Nut 3/8-16 Thd.*	
3	11516		Lockout Link Assembly	
4	714-0388		#61 Hi Pro Key 3/16 x 5/8" Dia.	
5	11951		Deck Link	
6	736-0160		Fl-Wash. .531" I.D. x .940" O.D. x .050	
7	714-0101		Int. Cotter Pin ½" Dia.	
8	710-0198		Hex Sems Scr. 5/16-18 x .75" Lg.*	
9	712-0261		Hex Jam Nut 5/8-11 Thd.*	
10	711-0306		Deck Idler	
11	756-0124		Pulley 4.75" Dia.	
12	712-0267		Hex Nut 5/16-18 Thd.*	
13	732-0191		Spring .75 O.D. x 11.0" Lg.	
14	711-0404		Shoulder Nut	
15	710-0367		Hex Scr. 5/8-11 x 1.50" Lg.	
16	11237		Wheel Brkt. Ass'y.—L.H.	
17	736-0123		Fl-Wash. .344 I.D. x 1.125 O.D. x .063	
18	710-0260		Carriage Bolt 5/16-18 x .62" Lg.*	
19	11951		Deck Link	
20	11936		34" Front Deck Brkt. Ass'y.	
21	736-0119		Spring L-Wash. 5/16" Scr.*	
22	712-0267		Hex Nut 5/16-18 Thd.*	
23	11958		34" Tractor Deck Ass'y.	
24	736-0160		Fl-Wash. .531" I.D. x .940" O.D. x .050	
25	710-0322		Hex Sems Scr. 5/16-18 x 1.00" Lg.	
26	714-0101		Int. Cotter Pin ½" Dia.	
27	712-0267		Hex Nut 5/16-18 Thd.*	
28	736-0119		Spring L-Wash. 5/16" Scr.*	
29	08253		Housing Bearing	
30	741-0919		Ball Brg. .787" I.D. x 1.85" O.D. x .551	
31	714-0365		#6 Hi-Pro Key 5/32 x 5/8" Dia.	
32	712-0123		Hex Nut 5/16-24 Thd.*	
33	736-0119		Spring L-Wash. 5/16" Scr.*	
34	742-0120		Blade 17.0 Inch	
35	710-0117		Hex Scr. 5/16-24 x 1.00" Lg. H.T.	
36	710-0459		Hex Scr. 3/8-24 x 1.50" Lg. H.T.	
37	736-0217		Spring L-Wash. 3/8" Scr. H.D.	
38	10769		Blade Adapter Kit	
39	710-0376		Hex Scr. 5/16-18 x 1.00" Lg.*	
40	711-0597		Blade Spindle	
41	710-0289		Hex Scr. ¼-20 x .50" Lg.*	
42	711-0571		Hinge Pin	
43	11399		Adapter Plate Ass'y.	
44	710-0195		Hex Scr. ¼-28 x .62" Lg.*	
45	732-0261		Torsion Spring	
46	11633		Chute Cover Ass'y.	
47	726-0106		Push Nut ¼" Rod	
48	738-0119		Shld. Scr. .625" Dia. x 1.75 (Axle)	
49	734-0225		6.0" Dia. Wheel Ass'y.	
50	712-0116		Hex Ins. L-Nut 3/8-24 Thd.	
51	736-0219		Bell. Wash. .40 I.D. x 1.130 O.D. x .03	
52	10949		Spring Lever Ass'y. w/Red Knob	
53	736-0105		Bell. Wash.	
54	10937		Wheel Pivot Bar	
55	11236		Wheel Brkt. Ass'y.—R.H.	
56	736-0329		Spring L-Wash. ¼" Scr.*	
57	712-0287		Hex Nut ¼-20 Thd.*	
58	09164		Reinforcement Plate	
59	736-0119		Spring L-Wash. 5/16" Scr.*	
60	712-0267		Hex Nut 5/16-18" Thd.*	
61	11945		34" Idler Bracket	
62	754-0184		"V"-Belt ½ x 52.0" Lg.	
63	712-0261		Hex Cent. L-Nut 5/8-11" Thd.	
64	756-0118		Pulley .75" I.D. x 4.75" Dia.	
65	710-0344		Hex Scr. 3/8-16 x 1.50" Lg.*	
66	11934		34" Rear Deck Brkt. Ass'y.	
67	736-0160		Fl-Wash. .531" I.D. x .940" O.D. x .050	
68	714-0101		Int. Cotter Pin ½" Dia.	
69	756-0118		Pulley .75" I.D. x 4.75" Dia.	
70	754-0180		"V"-Belt 21/32 x 54.0" Lg.	
71	12086		Belt Guard Ass'y.	
72	—		Right Angle Gear Box (See Breakdown on page 25)	
73	714-0388		#61 Hi-Pro Key 3/16 x 5/8" Dia.	
74	11950		Mounting Bracket	
75	736-0148		Ext. L-Wash. 3/8" Scr.*	
76	712-0798		Hex Nut 3/8-16 Thd.*	
77	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.*	
78	736-0300		Fl-Wash. .390" I.D. x .880 O.D. x .06	
79	736-0158		Spring L-Wash. 5/8 Thd.*	
80	736-0231		Fl-Wash. .344" I.D. x 1.250" O.D. x .125	
81	710-0538		Hex Scr. 5/16-18 x .62" Lg. Special	
82	12036		Spindle Ass'y.—Comp.	
83	11987		Belt Guard Cover (one for each deck pulley)	
84	710-0377		Hex Sems Scr. ¼-20 x .62" Lg.*	
85	736-0329		Spring L-Wash. ¼" Scr.*	
86	712-0287		Hex Nut ¼-20 Thd.*	

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(459—Mag Flake) When ordering parts if color or finish is important, use color code shown at left. (e.g. Mag Flake Finish—11970 (459).)

TRANSAXLE PEERLESS MODEL NO. 1218



NOTE: This unit is not under warranty by the mower manufacturer. All Part Orders and Service must be handled through the Local Authorized Tecumseh Service Dealer.

Find It Fast In The 'Yellow Pages'

PEERLESS MODEL 1218

This unit is under warranty by Tecumseh Products Company. Parts and Service are available through all Tecumseh, Lauson Power Products Service Dealers. Check the "Yellow Pages" of your telephone directory under "Engines—Gasoline."

PARTS LIST FOR TRANSAXLE PEERLESS MODEL 1218

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	PE-784095	Lever & Housing Ass'y. Shift (Incl. Nos. 2 thru 7)	34	PE-778021	Gear, Spur (26 Teeth)
			35	PE-786014	Spacer
2	PE-792016	Ring, Snap	36	PE-778022	Gear, Spur (22 Teeth)
3	PE-792001	Ring, Quad	37	PE-786015	Spacer
4	PE-792049	Pin, Drive	38	PE-778023	Gear, Spur (16 Teeth)
5	PE-784088	Housing, Shift Lever	39	PE-776067	Shaft, Input
6	PE-784094	Keeper, Shift Lever	40	PE-778024	Spur Gear, Input Shaft
7	PE-784096	Lever, Shift	41	PE-780001	Wash.
8	PE-784056	Rod Ass'y., Shift (Incl. Nos. 9 thru 12)	42	PE-786017	Spacer
			43	PE-778036	Gear, Output
9	PE-792003	Spring	44	PE-778041	Pinion, Output
10	PE-792004	Ball, Steel	45	PE-788008	Seal, Oil
11	PE-784004	Fork, Shifter	46	PE-782051	Housing & Bushing Ass'y., Axle (Incl. No. 51)
12	PE-784057	Rod, Shifter			
13	PE-784054	Rod Ass'y., Shift (Incl. Nos. 9, 10, 11, 14 & 55)	46A	PE-782052	Housing & Bushing Ass'y., Axle (Incl. No. 51)
14	PE-784055	Rod, Shifter	47	PE-772072	Cover Ass'y., Transaxle (Incl. Nos. 57 & 58)
15	PE-774307	Axle, R.H.			
15A	PE-774306	Axle, L.H.	48	PE-770033	Case Ass'y., Transaxle (Incl. Nos. 56 & 57)
16	PE-780042	Wash., Thrust			
17	PE-792020	Scr., Hex Hd. Cap., ¼-20 x 2¼	49	PE-792007	Scr., Socket Hd. Cap ¼-20 x ¾
18	PE-792006	L-Wash., ¼"	50	PE-786026	Pin, Dowel
19	PE-778033A	Gear, Ring	51	PE-780054	Bushing
20	PE-786019	Pin, Drive	52	PE-792010	Plug, Pipe
21	PE-786027	Block, Drive	53	PE-778039	Gear, Bevel
22	PE-778014	Pinion, Bevel	54	PE-792018	Ring, Snap
23	PE-776156	Pinion & Bushing Ass'y., Idler	55	PE-792017	Ring, Snap
25	PE-776014	Shaft & Bearing Ass'y., Shifter (Incl. No. 26)	56	PE-780011	Bearing
			57	PE-780013	Bearing
26	PE-780018	Bearing	58	PE-780055	Bearing
27	PE-778037	Gear, Idler	60	PE-788009	Seal, Oil
28	PE-776032	Shaft, Idler	64	PE-776008	Shaft, Reverse Idler
29	PE-784074	Stop, Shifter	65	PE-786008	Spacer, Reverse Idler
30	PE-788026	Gasket, Case to Cover	66	PE-778016	Idler, Reverse
31	PE-788003	Gasket, Shift Lever Housing	68	PE-780107	Washer
32	PE-778019	Gear, Shifting	69	PE-774029	Carrier, Differential
33	PE-778020	Gear, Shifting	70	PE-774028	Carrier, Differential

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

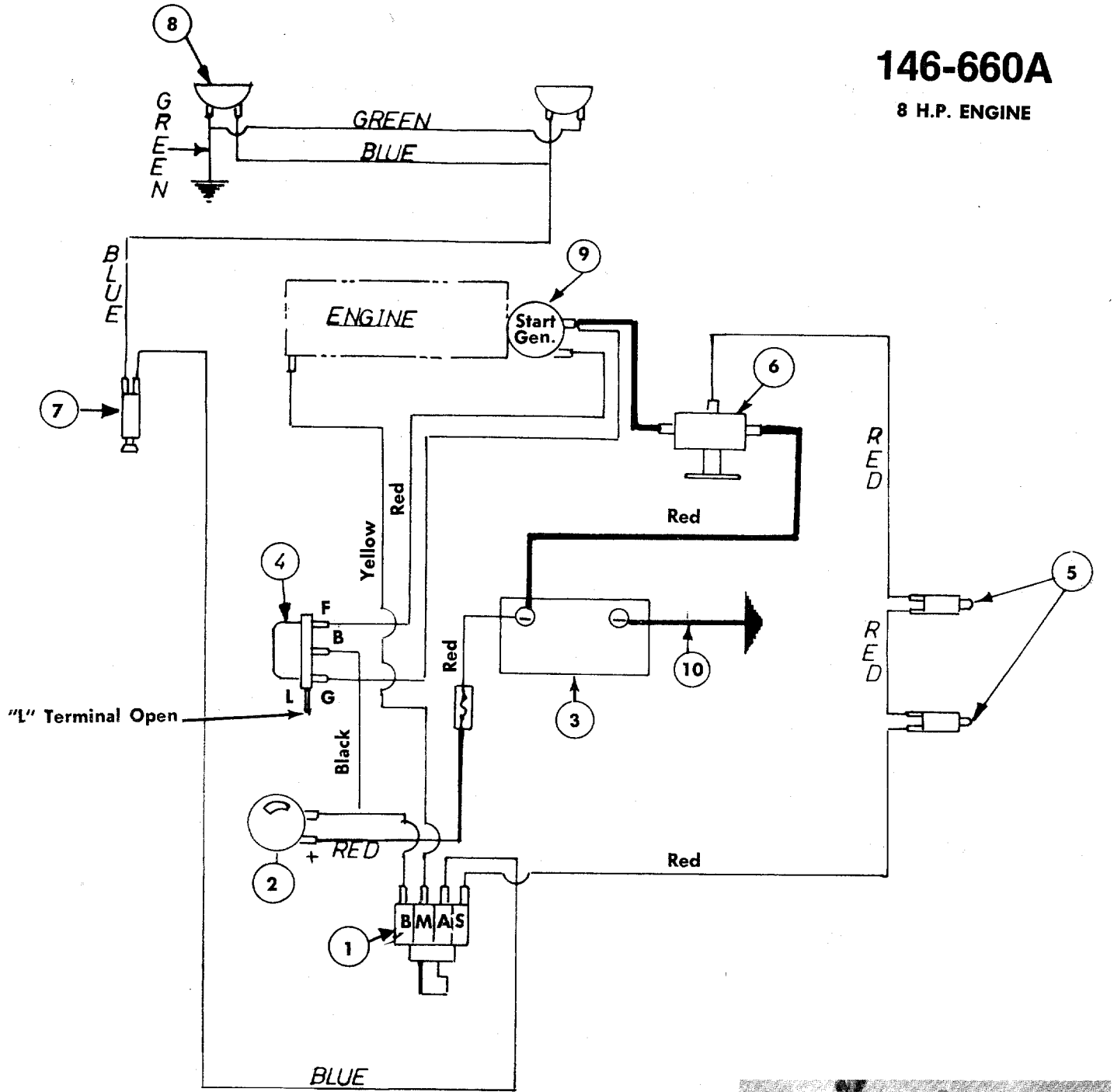
NOTE: This unit is not under warranty by the mower manufacturer. All Part Orders and Service must be handled through the Local Authorized Tecumseh Service Dealer.

PEERLESS MODEL NO 1218

This unit is under warranty by Tecumseh Products Company. Parts and Service are available through all Tecumseh, Lauson Power Products Service Dealers. Check the "Yellow Pages" of your telephone directory under "Engines—Gasoline."

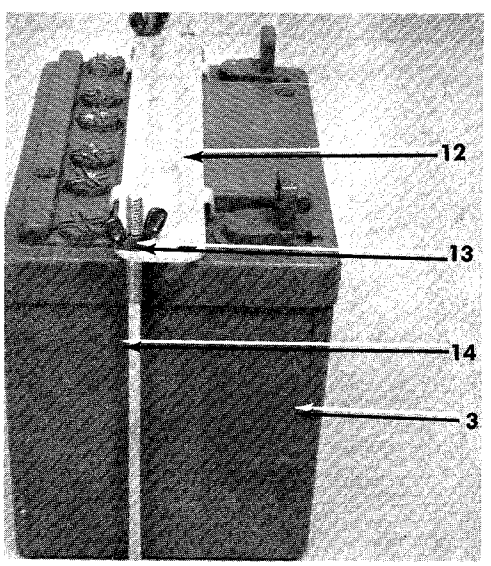
146-660A

8 H.P. ENGINE



PARTS LIST FOR SCHEMATIC MODEL 146-660A

REF. NO.	PART NO.	DESCRIPTION	NEW PART
1	725-0267	Ignition Switch	
	725-0201	Ignition Key	
2	725-0119	Ammeter	
3	725-0453	Battery	
4	725-0390	Voltagle Regulator	
5	725-0268	Safety Switch	
6	725-0270	Solenoid	
7	725-0202	Light Switch	
8	725-0222	Headlight	
9	725-0143	Starter—Gen.	
10	725-0122	Electric Wire	
11	725-0356	Wiring Harness	
12	12614	Battery Hold Down	
13	712-0113	Wing Nuts	
14	711-0222	Hold Down Rods	



PARTS INFORMATION

POWER EQUIPMENT PARTS AND SERVICE

Parts and service for all MTD manufactured power equipment are available through the authorized service firms listed below. All orders should specify the model number of your unit, parts numbers, description of parts and the quantity of each part required.

ALABAMA — **BIRMINGHAM**
Auto Electric & Carburetor Co. ... 2625 4th Ave. S. 35233

ARKANSAS — **NORTH LITTLE ROCK**
Sutton's Lawn Mower Shop ..... Rt. 4, Box 368 72117

FORT SMITH
Mity Mite Motors, Inc. ..... 2515 Towson Ave. 72901

CALIFORNIA — **SAN BERNARDINO**
Lawn Mower Supply Co. ..... 25608 E. Baseline 92410

SAN FRANCISCO
J.W. Jewett Co. ..... 981 Folsom St. 94107

SACRAMENTO
Luttig & Severson ..... 2030 28th St. 95818

COLORADO — **DENVER**
South Denver Lawn Equip. .... 527 West Evans 80223

CONNECTICUT — **SUFFIELD**
The Jones & Ramsey Co. ..... 850 Thompsonville Rd. 06078

FLORIDA — **JACKSONVILLE**
Radco Distributors ..... 2403 Market St. 32206

CORAL GABLES
Moz-All of Florida, Inc. ..... 365 Greco Ave. 33146

GEORGIA — **EAST POINT**
East Point Cycle & Key ..... 2834 Church St. 30344

ILLINOIS — **LYONS**
Keen Edge Co. ..... 8615 Ogden Ave. 60534

INDIANA — **ELKHART**
Parts & Sales Inc. ..... 2101 Industrial Pkwy. ..46514

CORYDON
Brown Equip. Dist., Inc. ..... 110 Beech St. 47112

IOWA — **DUBUQUE**
Power Lawn & Garden Equip. . 2551 J.F. Kennedy 52001

KANSAS — **WICHITA**
Hixon, Inc. ..... 3030 Mascot 67204

LOUISIANA — **NEW ORLEANS**
Suhren Engine Co. ..... 8330 Earhart Blvd. 70118

MARYLAND — **TAKOMA PARK**
Center Supply Co. .....6867 New Hampshire Ave. 20012

MASSACHUSETTS — **SPRINGFIELD**
Morton B. Collins Co. ..... 300 Birnie Ave. 01107

MICHIGAN — **MOUNT CLEMENS**
Power Equipment Dist. ..... 36463 South Gratiot ... 48043

LANSING
Lorenz Service Co. ..... 2500 S. Pennsylvania .. 48900

MINNESOTA — **MINNETONKA**
Hance Distributing Inc. ..... 11212 Wayzata Blvd. ..55343

MISSISSIPPI — **BILOXI**
Biloxi Sales & Service, Inc. .... 506 Caillavet St. 39533

MISSOURI — **KANSAS CITY**
Automotive Equip. Service ..... 3117 Holmes St. 64109

ST. LOUIS
Henzler, Inc. ..... 2015 Lemay Ferry Rd. 63125

NEBRASKA — **OMAHA**
R.P.W., Inc. ..... 7402 "L" St. 68127

BRIGGS & STRATTON, TECUMSEH AND PEERLESS PARTS AND SERVICE

Briggs & Stratton, Tecumseh and Peerless parts and service should be handled by your nearest authorized engine service firm. Check the yellow pages of your telephone directory under the listing *Engines — Gasoline*, Briggs & Stratton or Tecumseh Lauson —

NEW YORK — **CARTHAGE**
Gamble Dist., Inc. ..... West End Ave. 13619

SYRACUSE
Kimber's, Inc. ..... 115 N. Geddes St. 13204

ROCHESTER
Henry W. O'Neil & Associates ..410 N. Goodman St. ... 14609

NORTH CAROLINA — **GREENSBORO**
Dixie Sales Company ..... 327 Battleground Ave.. 27402

GOLDSBORO
Smith Hardware Co. ..... 515 N. George St. 27530

OHIO — **WADSWORTH**
National Central ..... 687 Seville Rd. 44281

CLEVELAND
Bleckrie, Inc. ..... 7900 Lorain Ave. 44102

CARROL
Stebe's Mid-State Mower Supply Box 366 43112

WILLARD
Sunshine Wholesale Tire Outlet Route 224 44890

MANSFIELD
McClure Lawn & Garden Supply...1114 Lexington Ave. . 44903

OKLAHOMA — **MUSKOGEE**
Victory Motors, Inc. .....605 S. Cherokee 74401

ADA
Ada Auto Supply ..... 301 E. 12th St. 74820

OREGON — **PORTLAND**
Kenton Supply Co. .....8216 N. Denver Ave. . 97217

PENNSYLVANIA — **LANCASTER**
Raub Supply Co. ..... James & Mulberry Sts...17604

PITTSBURGH
Bluemont Co. ..... 11125 Frankstown Rd.. 15235

TENNESSEE — **KNOXVILLE**
Master Repair Service ..... 2423 Broadway, N.E. ..37917

MEMPHIS
Memphis Cycle & Supply Co. .... 421 Monroe Ave. 38103
American Sales & Service, Inc.. 1922 Lynnbrook 38117

TEXAS — **DALLAS**
Marr Brothers, Inc. ..... 423 E. Jefferson 75203

HOUSTON
Bullard Supply Co. ..... 2409 Commerce St. 77003

SAN ANTONIO
Catto & Putty, Inc. ..... P.O. Box 2408 78206

FORT WORTH
Woodson Sales Corp. ..... 1702 N. Sylvania ..... .76111

UTAH — **SALT LAKE CITY**
A-1 Engine & Mower Co. ..... 437 E. 9th St. 84111

VERMONT — **BURLINGTON**
Vermont Appliance Co. ..... 44 Lakeside Ave. 05401

VIRGINIA — **RICHMOND**
RBI Corp. ..... 963 Myers St. 23260

WASHINGTON — **SEATTLE**
Bailey's Rebuild, Inc. ..... 1325 E. Madison St. ...98102

WEST VIRGINIA — **CHARLESTON**
Young's, Inc. ..... 233 Virginia St., E. ... 25301

WISCONSIN — **APPLETON**
Automotive Supply Co. ..... 123 S. Linwood Ave. ..54911

WARRANTY PARTS AND SERVICE POLICY

The purpose of warranty is to protect the customer from defects in workmanship and materials, defects which are NOT detected at the time of manufacture, It does not provide for the unlimited and unrestricted replacement of parts. Use and maintenance are the responsibility of the customer. The manufacturer cannot assume responsibility for conditions over which it has no control. Simply put, if it's the manufacturer's fault, it's the manufacturer's responsibility; if it's the customer's fault, it's the customer's responsibility.

CLAIMS AGAINST THE MANUFACTURER'S WARRANTY INCLUDES

1. **Replacement of Missing Parts** on new equipment.
2. **Replacement of Defective Parts** within the warranty period.
3. **Repair of Defects** within the warranty period.

All claims MUST be substantiated with the following information:

1. **Model Number** of unit involved.
2. **Date unit was purchased** or first put into service.
3. **Date of failure.**
4. **Nature of failure.**